

**Challenging
Economics
Questions**

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INTRODUCTION

All my life I was in love with science. I love books. I love learning. When I was young, I wanted to learn everything about anything. I actually did so till I was a teenager when reality of life had opened my eyes. There were so many things to learn and my life would not be enough to learn everything. I had to choose the branch of science I wanted to focus on. I hesitated a lot. At times, my decision changed almost an hourly. I loved chemistry for example; I even attended couple of competitions at high school. Chemical reactions, elements, bonds, etc. made chemistry the most mysterious science for me. I still love this science. Later on, I thought about a career in law. I loved history, humanitarian thoughts, complex laws and regulations. Teenage idealism, perfectionism, mixed with impressions from Hollywood movies about brave lawyers defending innocent people at court. Later on, cybernetics was my love. Cybernetics demanded math and engineering skills. My math was always good. Physics and engineering was my hobby. One of my best friends at that time was physicist and we had many debates about space and some hypothesis which lasted to late nights. I read a lot. If it was interesting, I read it. No matter, if it is related to biology, some geography, geopolitics or simply about gardening. I just read it. When I was like 16, a friend of mine recommended me reading Theodore Dreiser's "Financier", which was a first book of trilogy. I understood who I wanted to be: I wanted to be an economist! Economics and Finance was exactly the science for people like me: energetic, with both good technical skills (math, calculations) and social skills (history, literature, communication, etc.). I immediately started reading about economics, and later on about finance. During my BA study (my major was in Banking and Finance) I further developed my knowledge on my own. Unfortunately, I did not have 'world class' economics professors at university I graduated from, but I knew it was a global problem. Most of questions that bothered me left unanswered by my dear professors. So I studied myself. National Library (named after Karl Marx) was my second home. We did not have internet connection as today so the only way to get information was through 'real books' only. After graduation, I left the country for studying in USA. I was accepted to one of the best universities for MA program in Economics. After finishing the program I returned back and worked in government jobs. Later on, I had an experience in teaching. Honestly, I liked it. I never thought that I would be a good teacher because I knew that "knowing a lot of things" and "transferring knowledge to others" is totally different things. I do not know how I as a "teacher" but I want to assure you that I tried my best. During my teaching career, I have noticed a lot of things, which I actually mentioned in my book: "Fundamentals of Economics and Finance". One of the most important things was that very few people had both technical skills and social skills. I had students who had good math but they had awful history knowledge, or 'low baggage' of other needed literature knowledge. And vice versa; students with excellent humanitarian knowledge but with awful technical skills. Economist must be good at both, this science is demanding! So I was extremely technical during my economics courses, I diligently pushed students for advancing their calculation skills. Of course, not everybody liked it, but this was the only way to get through this science. This is the only way to prepare excellent experts in economics and finance. During these years, I

prepared an excellent economics and finance study programs which contained everything from microeconomics, macroeconomics, trade, finance, econometrics, accounting, audit and political economy topics. Aim of this program is to prepare 'well rounded-world class economist'. This book contains some challenging questions in all economics areas mentioned above which I use in my program. Those, who can solve at least 50% of the questions from this book, can be said as a 'good specialist'. Those who can solve it fully; deserve to be called as an 'economist'.

Dear reader!

I strongly consider economics science as the most important science in 21st century, and even recommend that economics classes be introduced and taught at schools (not only given in universities). I do not believe that economics is less important than geography or biology. This book is for economics and finance major students, and those who graduated from the universities thousands years ago and was looking to refresh their knowledge. It contains challenging and high quality above 500 multiple choice questions. All of the questions are unique, challenging and non-repeated. I could have created a book with 10,000 questions if I put low quality and repeated questions as other books did. My aim is not a quantity, but quality! I also added some short stories from my 'teaching life' in Turkmen language. I just wanted to share it with you. **Answers for all questions are choice A.** I am giving you answers (A), but not solutions! Human being progress and develop when solving challenging questions, not an easy ones!

"Good question worth the gold!"

Yhlas Yagshyyev

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I thank everybody who supported science, knowledge and especially those who supported me (I know how difficult and unbearable at times I can be☺) for all these years, starting with my parents, my wife and two amazing kids, my dear friends and colleagues, my school teachers, wonderful local professors and professors from USA, my former and current employers, my beloved state, and my hardworking students! THANK Y'ALL!

I am who I am today, only thanks to YOU!

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PART1: Social and Political Economy

1) Why humans build societies?

- a) Actually not only humans (same species), but also other creatures in our planet come together to form communities (sometimes unions of different species are also witnessed) because in communities, each member's individual benefit is much higher than living in outside of community. Social communities increase both productivity and consumption of each member of society due to social benefits produced by existence of society itself such as defense, laws and regulations, education, etc. which in economics science is called common goods and public goods. Protection and social norms provide excellent ground for individual to invest and produce private goods.
- b) It is fun to be together.
- c) It is interesting to be together. So many gossips!
- d) Societies are built for production of public, private and common goods from which common benefit arises by using means of production like land, natural resources, labor and knowledge.

2) How many theories and hypothesis are there about creation/evolution of human beings?

- a) Many! Starting from religious, evolutionary, space and many others.
- b) Darwin's theory of evolution only!
- c) Human being is from space!
- d) All of them are only rumors!

3) What is public good?

- a) Public good is non-excludable and non-rivalrous good like lighthouse, national security, national defense, official statistics, clean air, street lights, public botanic parks, etc. and generally supplied by government due to the fact that public goods create insufficient profit to be produced by private efforts. Thus, public goods could only be produced in communities.
- b) Public good is a good for everyone, could be freely enjoyed and freely used.
- c) Public good is a good which is produced by governments
- d) Public good is a good which is produced by aliens and Santa Clause. They jointly work excellently together.

4) Which one below is not a public good?

- a) Public library
- b) Public school
- c) Public park

- d) Public law
- e) Public company
- f) All of them

5) What is a public company and what is the largest public company in 21st century?

- a) Public company is the company whose majority of shares are owned by people (other than owners). Since public companies are no more private companies, their management structures and profit distribution differs from private companies. Public companies are in a sense public good. Largest public company by market capitalization in 21st century is Apple Inc. which valued over 3 Trillion USD as of January 2023.
- b) Public company is nobody's company!
- c) All state entities are public company!
- d) Non-profit organizations are public company!

6) What is common good?

- a) Non-excludable but rivalrous good such as forest, roads, fish in ocean where overconsumption of good by one party may limit the consumption of another. Cooperation of members creates and increases common goods.
- b) All goods produced by government are considered as common good.
- c) Free good is common good.
- d) Goods which have no restriction in consumption are called a common good.

7) Which one below is a common good?

- a) Water
- b) Land
- c) Resources
- d) Education

8) What is private good?

- a) Private goods are both excludable and rivalrous and produced using private capital. Private companies attain copy rights, licenses, needed patents and other documentations from government for production of that good and service, and they will decide how much to produce and when to produce.
- b) All goods which are not free are considered as private good.
- c) Goods that are not produced by government are private good.
- d) Private goods are goods that are consumed privately.

9) Many countries have law on protection of privacy of citizens. How these laws on privacy related to private good?

- a) Every person's actions in life (phone conversation, words, working, eating, dancing, sleeping, etc.) is considered as a private. Without permission of that person, nobody is allowed to print, publish, or use those actions for any purposes. For producing any goods and services privately, companies must attain patents, licenses, and much other documentation which legitimizes that production. Same is applied to actions of any person. In order to use someone's actions for any purpose, one must take permission from that someone; otherwise, it is considered as illegitimate good or service.
- b) No relationship at all!
- c) I do not know, I did not study law at school.

Yhlas mugallymy bir gün kafedra müdiri ýanyna çagyryp:

- Mugallym, siz Amerikada okap geldiňiz. Sizden mylakatly, salyhatly we mähirli äheňde sapak geçmegiňize garaşýardyk. Talyplar nalyňyar, gödekmişsiňiz we gaty berk tutýamyssyňyz.

Yhlas mugallymyň jogaby:

- Nähili talyp berseňiz, şoňa göräde okatma usuly bardyr! “Ölüşin ýaly, gömüşi bardyr!”

10) Which law is considered as “cornerstone” for increasing production of private goods and services?

- a) Law on Property Rights
- b) Law on Gender Equality
- c) Law on Education
- d) Law on Celebration of Golden Elves golden birthday

11) What is a normal good?

- a) Normal good is a good which is consumed regardless of income change such as computers, bread, cooking oil, etc. These goods are of average quality and consumed by all parts of society.
- b) Normal good is a good which is considered as normal.
- c) Normal good is standard average good.
- d) Normal good is a good for medium income people.

12) What is an inferior good?

- a) Inferior good is a good of low quality and cheap which consumption goes down as income of consumers increases. Inferior goods are generally consumed by low-income part of the society. Consumption of inferior goods increase at crisis times and decrease in economic booms.

- b) All cheap goods are inferior goods.
- c) Inferior goods are consumed by inferiors.
- d) There is no such good as inferior good

13) What is a luxury good?

- a) Luxury goods are goods of highest quality and possess highest price. Consumption of luxury goods depend on income change of consumers. As income goes up, consumption of luxury goods go up too, and goes down if income decreases. Luxury goods are consumed by wealthy or high-income part of the society. Consumption of luxury goods decrease at crisis times and increase in economic booms.
- b) All expensive and useless goods are luxury good.
- c) Luxury good is not a real good. It is rather for show off.

14) "All goods and services have three classes: Luxury class, medium class and cheap class. For example shoes; there are expensive shoes, shoes for medium price and also cheap shoes. Let's also take air transportation services; there are first class tickets, business class and also economy class for the same flight." True or false?

- a) True
- b) False
- c) I do not know
- d) Who knows

15) What is a capital good?

- a) Capital goods are "means of production" which is a land, resources, money, technology, factory, energy, etc. which is vital for producing any type of goods including common, public and private.
- b) Goods that are produced in capital.
- c) Natural resources are capital good!

16) Biggest factory in the world?

- a) Boeing Everett Factory, USA
- b) Gigafactory, USA
- c) Volkswagen, Germany
- d) Microsoft, China

17) You remember saying about giving fishing rod instead of fish to help feed poor? What is capital good in that saying?

- a) Fishing rod
- b) Fish
- c) Saying itself
- d) There is no capital good

18) What is a durable good and non-durable good?

- a) Durable goods are those goods that could be used for longer period of time like refrigerator, car, house, laptops, etc. compared to non-durable goods which are consumed or used at once like food, drink, movie, tourism, etc.
- b) Non-durable goods are goods that live only in memories.
- c) Inferior goods are non-durable goods.
- d) If cheap inputs were used for production it is a non-durable good.

19) "Human beings spend most of their earnings on non-durable goods like food and leisure." Do you agree with this information?

- a) Yes
- b) No
- c) I do not know
- d) I should ask my mom about this. She knows everything!

20) What is a digital good?

- a) Digital goods like games, software programs, viruses, crypto-currency, etc. are produced using digital capital: software, computers, etc. and could be used only in digital platform: software, computers, etc. Digital goods has almost zero variable cost, thus it almost costs nothing to replicate or to produce exactly same digital good.
- b) Any good which is not produced using any commodity.
- c) Digital goods are risky and volatile goods.
- d) There is no such a thing as digital good.

21) Which one below is not a digital good?

- a) Game for computers
- b) Game for mobile phones
- c) Game for Sony PlayStation console
- d) Card game

22) What is a neutral good?

- a) Neutral goods are goods which has no impact on consumers if vanished from markets because these goods have tons of substitutes and alternatives. Like some small soap company, shoes shine producers, some small manufacturers, etc.
- b) Neutral good is neither bad nor good.

23) How societies are managed?

- a) Every society, depending on type (ants, bees, lions, etc.) has its own hierarchical management structure based on individual power, or elected power, sex or else. Lion pride, for instance, consists of one male lion (leader) whose object is to

protect the pride and young siblings while female lions hunt. Most ant and bee groups have female, queen ant, as a leader and other members of society do the hunting and gathering work. Elephant societies will mainly consist of female members and will also be led by female elephant. Most shark groups will also live in societies while certain members of the same family like great whites and tiger sharks will generally be lonely survivors. Human societies are managed by their formed respected governments.

- b) By big stick!
- c) Telling people good tales and stories helps keeping them together.
- d) Stick and carrots

Talyplaryň biri Yhlas mugallyma sorady:

- Mugallym, ykdysadyýet sapagynda siz hemişe “mugt zat ýokdur, ähli zadyň nyrhy bardyr” diýerdiňiz. Onda, siziňem nyrhyňyz bardyr-a?
Yhlas mugallymyň jogaby:
- Dagy näme, meniňem nyrhym bar, ýöne seniň ýalyalaryň puly ýetmäýmese maňa!

24) What is the name of “stateless state” (no government!) in socio-philosophical literature?

- a) Anarchy
- b) Autarky
- c) Archimedes
- d) Empire

25) Is there any country without any government (anarchy!) in modern history?

- a) Yes, Somalia’s state failed in 1991 and has no legitimate government ever since.
- b) No, such a thing could not occur.
- c) May be I do not know, I should ask my mom about it.
- d) Santa Clause knows everything we should ask him about it.

26) Why governments exist?

- a) Government is needed to bring order and peace through management of common, public and private goods supplied, so that society reaches the maximum socially beneficial level of living. Society consists of rational wealth-maximizing agents which are people. When people come together for common benefit and form society, that society needs to be managed for fair distribution of common benefit. Common benefit arises from specialization of labor force (people). It is much cheaper both in monetary and time terms to focus on certain activity instead of doing everything yourself. Societies divide among themselves

- activities for efficient work. While some part of society produces goods and services, other part is guarding them; another party is busy with daily government administration and so on. In this case, everybody is in win-win situation; societies can produce more and be protected. Duty of the government is to manage the common goods (land, resources, budget, and human capital), public goods (justice, education, defense, diplomacy, etc.) and private goods (through setting minimum safety, production, health and ecological standards) in such a way, so that social and economic welfare increases. Form of government may differ (empire, kingdom, emirate, sultanate, democracy, socialist, etc.) but target remains the same: fair distributions of common benefits.
- b) Government is there for protection of people!
 - c) Government must take care of everything for me!
- 27) What will happen if governments are not able to fairly distribute benefits of common, public and private goods produced, thus welfare of citizens are not increasing instead it is deteriorating?
- a) When common, public and private goods are not distributed fairly in society, income inequality gap among citizens rise (majority of people are poor while very few live in extravagant lavish lifestyle) and reforms in the government will be demanded. Since governments play “regulatory” role in distributing of common benefits, unfairly discriminated majority will rightly decide that government is not fulfilling its functions correctly, and demand resignation of the government. If reform is not made, then unrest and riots will start, and in worst case scenario, civil war will outbreak, causing separation of societies.
 - b) Santa Claus will not bring presents to that society.
 - c) Discriminated part of the society will leave the country and move to Mars.
 - d) Citizens will silently prey and wait for miracle!
- 28) Which one below is a good example of successful revolt of citizens against government after 2020?
- a) Sri Lankan poverty riots in July 2022
 - b) White House Capitol occupation against election results in USA on January 6, 2021
 - c) Israeli protests against judicial reforms of 2023
 - d) Mongolian protests of 2022 against coal prices
- 29) How many governments are there in our modern history that cannot fulfill their functions?
- a) Failed State Index (FSI), the most popular one, and many other measurements of government performance indices are published annually. According to those analyses there are many failed governments, also, many at a risk of failure. Example: Yemen, Somalia, Sudan, Syria, Central African Republic, etc.
 - b) All of them fulfill.
 - c) None of them fulfill.

d) I do not know I should ask elves about it.

Talyplaryň biri Yhlas mugallyma sorady:

- Mugallym, sapaklarda eger talyp jogap berip bilmese siz “senden-ä meniň howlymda saklap ýören towuklarymam akylydyr” diýerdiňiz köplenç. Eger mümkin bolsa şol towuklary birje görüp bolardymyka?

Yhlas mugallymyň jogaby:

- Mümkin däl! Öýümde men başlyk! Ähli başlyklar ýaly, özümden akylyly işgärleri birinji yok edýän!

30) How big must be the governments?

- a) It depends on number of society members (citizens) and their preferences on how common, public and private goods supplied in economy. If society decides that majority of common, public and also private goods are better supplied by government, then size of the government will be immense. USSR, Union of Soviet Socialistic Republics, which existed from 1922 up to 1991, had immensely huge government structure because almost all of common, public and private goods were supplied by government. Generally, size of the government is calculated using government spending to total gross domestic product ratio of a certain country. The bigger this ratio, the bigger the portion of government in an economy! In economics science there is no clear cut answer on how big must be the governments. Efficient government structure is the one where citizens have highest social benefit.
- b) As big as it can get!
- c) The smaller the better!
- d) I do not know, I should ask my uncle about it.

31) What is the biggest government in 21st century?

- a) United States of America, with annual government spending close to 10 Trillion USD in 2022 (over 40% of GDP)
- b) People's Republic of China, with annual government spending above 5 Trillion USD in 2020 (around 30% of GDP)
- c) Japan, with annual government spending above 1.5 Trillion USD in 2022 (over 40% of GDP)
- d) France, with annual government spending close to 1.5 Trillion USD in 2022 (around 60% of GDP)

32) Which one below is not true about social benefit and social cost?

- a) Social benefit is the total amount of common, public and private goods consumed by society at a certain time frame. Higher amounts of common, public and private goods will increase social benefit while lower amount will decrease it. In Norway,

middle schools are free (public good supplied by government) and also free lunch is given to school kids (public good supplied by government). Compare this with middle school in Namibia where schools are non-existent in rural areas and kids have to walk tens of kilometers to get an education (no transportation is supplied by government and private transportation is expensive so kids have to walk to school). Social benefits of school kids are much higher in Norway than in Namibia.

- b) Social cost is the value of the all resources to make common, public and private goods.
- c) Social cost is almost incalculable!
- d) All of them are true.

33) How well-being of people (welfare) and efficiency of the government is measured in our times?

- a) The most popular one is the Human Development Index (HDI), which uses life expectancy, education level and income level of population to measure how well the social development in the country. The higher the better. There are also many other measurement indices of welfare and development.
- b) Welfare of the population cannot be measured.
- c) GDP (Gross Domestic Product) is used.
- d) Inflation rate is used.

34) What is the structure of the government?

- a) Generally, all governments have *trias politica* model structure where power is divided among legislature, judiciary and executive branches of the government in order to prevent concentration of power by providing checks and balances.
- b) Tribal structure is prevalent
- c) Caste structure like in India
- d) Dictatorial structure is prevalent

35) What was the structure of the government of Genghis Khan?

- a) Genghis Khan was one of the greatest military leaders of Mongol origin and started its legendary invasions in 13th century. Unfortunately, the main target of Genghis Khan was invasion, not an empire building that is why he was never settled at one place. He had an army; he did not have an empire. No country, no government!
- b) Great Mughal Empire was built by Genghis Khan.
- c) Genghis Khan had transparent government.
- d) Genghis Khan is a government!

36) What is a country?

- a) Country is an area, legally managed by government of certain society. Each country has its own flag and other national symbols which are ratified by international community.

- b) Any land that you can occupy is a country.
- c) Your birth land is your country!

37) What is the biggest country by territory in 21st century?

- a) Russian Federation
- b) United States of America
- c) Canada
- d) China
- e) Democratic Republic of Congo

38) Are societies same?

- a) Even though human beings share same biological and physical characteristics (two hands, one head, etc.) due to different historical background, their language, beliefs, culture, social structure, and economic conditions may differ.
- b) Yes, all human beings are same!
- c) Never! There are strong hierarchy exists in human society!

39) How societies develop?

- a) Societies develop based on their economic capacity. Economic development leads to social development. Generally, all societies start from initial level of “hunter-gatherer” social structure where basic survival is hunting and gathering as name mentions it. Later on, when amount of population increases, and knowledge about nature also increases, societies learn how to cultivate certain fruits, vegetables, and grains. This knowledge helps societies to turn from nomadic life structure to settled one. During the “hunter-gatherer” era, societies had to constantly move where their prey moves. This movement had some negative impact on population size, because during “hunter-gatherer” era, mobility and dynamism was the main condition for survival of human societies. Settlement of the society was possible with “food close by”. This abundance of food leads to population explosion and bigger society. In this era, basic types of rules and laws are developed. Interest and knowledge about nature laws deepened. Social norms developed. Religion, art and culture evolved and took more rational, explainable shape. Trade and diplomacy became part of the big politics. Societies experimented with government structures starting from dictatorship and absolute monarchy where basically one-man ruled, and ending with democracy where majority decision was decisive. Historians call initial settlement era as Ancient times and later stages as Feudalism. At this stage of development, societies basically were dependent on land and agriculture. Feudalism stage of development progressed differently in each society: some societies moved to next stage, capitalism as early as on XVI century like Dutch Empire, and XVII century British Empire, but some societies like Russian Empire and Ottoman Empire, feudal socio-political structure stayed as long as XX century.

- b) Societies develop through wars and battles!
- c) Hard work makes society better off!

40) Who is the richest monarch (feudal) in 2023?

- a) Vajiralongkorn, King of Thailand, estimated wealth over 30 Billion USD
- b) Hassan-al-Bolkiah, Sultan of Brunei, estimated wealth over 20 Billion USD
- c) Salman As-Saud, King of Saudi Arabia, estimated wealth around 20 Billion USD
- d) Muhammad IV, King of Morocco, estimated wealth around 10 Billion USD

41) What is capitalism?

- a) Feudalism was socio-economic structure where people were divided according to their ancestral background: feudal and servants and agriculture was the main source of wealth. Since agriculture depends on land, land was the main factor of production and source of income. Kings (biggest landowner) powers passed on their siblings, aristocrats' (second biggest landowners, their lands were given them by Kings) titles, land and even servants passed on their siblings, while servants (people with no land belongings) were obliged to serve only. At this stage of development, political power belonged to landowners only because landowners had the capital, and capital means power. Thus, only landowners' decision played the main role in managing the society. Capitalism ended this ancestral rule, instead, now capital, money was the main criteria in influencing government decision. Companies, entrepreneurs, business magnates, moguls now replaced aristocrats with lavish titles and started influencing governments through financing of new political parties, lobbying special interests, etc. In capitalistic society, societies are less dependent on land and agriculture and were basically manufacturing and producing consumer goods. At this stage, capital accumulation brought huge socio-economic-political reforms, starting from human rights, property rights, and competition of political parties, minimum wage, maximum working hours per week, and ending with more complex government structure.
- b) Capitalism is when rich rule, poor is null!
- c) Capitalism is when money, and not a human, is in main roles!
- d) Communism is more humane while capitalism is more brutal socio-economic structure.

42) Who is the richest person (capitalist) in 2023?

- a) Elon Mask with estimated wealth of 180 Billion USD
- b) Jeff Bezos with estimated wealth of 114 Billion USD
- c) Larry Ellison with estimated wealth of 107 Billion USD
- d) Warren Buffett with estimated wealth of 106 Billion USD

43) What is politics?

- a) Politics is a process and mechanism of distribution of social benefit and social cost raised from producing common, public and private goods in society.
- b) Politics is a power struggle among political parties!
- c) Strategy, development, and growth are the main question politics try to solve.

44) The most influential political figures in 2023?

- a) Xi Jinping
- b) Narendra Modi
- c) Vladimir Putin
- d) Joe Biden

45) What is political party?

- a) Political party is union of special interest groups (businessman, scientists, politicians, etc.) with economic, social, diplomatic and political targets. Political parties are formed and financed by members of party. They try to achieve their targets through getting their members into the legislative (Congress, Parliament, etc.) and executive (minister, premier minister, president, governor, etc.) powers of the government by winning in elections. In many countries, financing of local political parties by foreigners are not allowed. Political parties bring competition into politics.
- b) Political parties have their own symbols, own budget and they act upon their own interest!

46) Which party is the biggest party in 21st century?

- a) Bharatiya Janata Party (BJP) of India, reported 180 million members
- b) Chinese Communist Party (CCP) of China, reported 97 million members
- c) Democratic Party of USA, reported 47 million members
- d) Indian National Congress (INC) of India, reported 45 million members

47) Which political system brings more economic efficiency multi-party or single party system?

- a) Competition leads to efficient outcome that is why competition is one of the main principles of market economy. Competition in politics is not an exclusion from this rule. Multi-party system may diversify socio-economic targets and also provides more alternatives to citizens to choose from. Single party system is a monopolization of politics.
- b) Single party system brings more efficiency because the party does not waste time by fighting with another political party and it has more time to focus on government issues.
- c) Economic efficiency does not depend on political party numbers!

48) What is international relation?

- a) Survival of any country in isolation is almost impossible because social cost of isolation is too high! In isolation, a country has to produce everything from food to technologies which means high opportunity costs. High opportunity cost of production means high social costs. Trade and diplomacy always assisted in decreasing social cost of consuming a good which meant increasing welfare of the population. Increase of welfare is one of the main reasons why nations cooperate internationally almost in all areas (economic, military, etc.)
- b) The target of international relations is trying to eliminate wars and conflicts.
- c) International relations are needed to reach globalization as soon as possible!

49) Why international organizations and political unions exist?

- a) International organizations and unions are needed to increase cooperation in between countries so that trade and other activities go smoothly. Cooperation increases total welfare.
- b) Each international organization has its own target!
- c) Target of international organization depends on its sources of financing!
- d) All international organizations are financed by USA!

50) What is colony and colonialism?

- a) Colony is an area or location from which all natural resources are extracted by colonizers, the owners of the colony. Colonizers extract resources of colonies using force and harsh treatments of local population, including punishment with death. Colonizers try to maximally extract a resource that is why they invest minimum capital. That drop of investment generally went to transportation infrastructure, or extraction and mining equipment. Not even penny was invested to education, or any other social or economic infrastructure of the colonies. Many colonies even after gaining independence from their colonizers, take decades to build their economies after devastating impact of colonization. Because that had to start from scratch. Slavery, force, human rights abuse, intimidation, discrimination, usurpation, brain wash and bribery were the main methods used by colonizers to keep colonies “quiet and humble”. Colonizers left their colonies in dire conditions; with no social or economic infrastructures, zero capital investment, illiterate society, demolished history, language, religion, and tradition. English Empire’s colonies: Indian subcontinent (India, Pakistan, Sri Lanka, Bangladesh), North America, South Africa, Palestine, Parts of China, Australia, New Zealand. French colonies: Morocco, Tunis, Algeria, Senegal, Ivory Coast, Louisiana (USA), Canada. Spanish colonies: Argentina, Mexico, Caribbean Peninsula. Portuguese colonies: Brazil, Goa (India). These are few of colonizers and colonies from history.
- b) Colony is a country whose political and economic decisions are made by other country (colonizer).
- c) World is still divided to two: colonies and colonizers!

51) Biggest colony by population?

- a) Indian subcontinent (Pakistan, India, Sri Lanka, Bangladesh, etc.) was colony of English Empire for over 200 years. Population in colony was 30 times bigger than colonizers at the pick!
- b) Australia! Their flag is saying it all!
- c) Brazil was the biggest (by area) colony of Portugal.
- d) Finland was the biggest (by area) colony of Russia.
- e) Manchuria (part of China) was the biggest colony of Japan.
- f) Philippines was the biggest colony of USA.

52) Why slavery abolished?

- a) Slavery was profitable when economy was based on agriculture, at the times of feudalism. Land was a lot but labor force was not enough that is why slaves were extremely valuable good. Almost no technology was present to cultivate the land and only labor force was used for almost everything. With the capitalism, increased manufacturing, new technologies (steam engine, etc.) it was no more profitable to own slaves. Slave owners needed to feed them, and give them housing and all other needed accommodations. At the initial era of capitalism, entrepreneurs and businessman in cities had no land, instead they had factories. Land and people belonged to landowners/feudal by law. Landowners (feudal) could accommodate slaves because they had land, but for businessman, fixed payment (wage) was more preferable. Businessman needed employees in their factories, landowners wanted employees too in their land and unfortunately by law, many people/slaves belonged to feudal. So, competition began between capitalists (businessman) and feudal. Manufacturing was booming (especially in England in 18th century) and demand for manufacturing goods increased highly. Capitalists needed employees and they increased payments (wages). This attracted many slaves and they ran away from their landowners. Landowners complained about this to kings and queens, and they demanded or lobbied that kings and queens ratify new acts that gave more power to landowners to punish slaves, up to killing them if needed. Capitalists also lobbied kings and queens that slavery should abolish because slavery hurt the development of manufacturing which hurt the budget because if capitalists are not earning they will not be able to pay taxes. As manufacturing increased, tax revenues from manufacturing also increased. Capitalists' voices were louder and more profitable now. This led kings and queens (especially of European nations) to side with capitalists and finally abolish slavery regardless of protests of feudal landowners, whose revenue compared to capitalists (and voices) were declining gradually. Economy, especially of European nations, got its independence from agricultural sector, and mainly was developing through manufacturing and trade. People were free to move anywhere they wanted and work for anybody they wanted.
- b) Slavery was abolished because of uprising of slaves and many riots.
- c) Slavery was abolished because western world was ashamed of their deeds.
- d) Slavery was abolished because western world finally understood that slavery is unethical!

53) Biggest slave auction market ever existed?

- a) 188 Main Street, Savannah (town in USA), Georgia, USA
- b) South Africa
- c) English Empire
- d) French Empire

54) Why countries wage wars?

- a) Main reasons for wars were/is/going to be always means of production (land, capital, human capital, etc.) and resources (petrol, diamond, gold, water, etc.)! Survival of any society/nation depends on means of production and resources it possesses and also on defense capability of that nation! Wars will take place pretty often in the future as world's resource depletion accelerates.
- b) Love is the main reason (as movies show it) of wars.
- c) People wage wars for territory!

55) Why military technology is vital for economic development?

- a) Survival of any society/nation depends on means of production and resources it possesses and also on defense capability of that nation! In order to protect interests and welfare of citizens, research, development and production of defense/offense technologies are vital. World population is increasing and this fact accelerates resource depletion since increasing population means increasing consumption. As resources get scarce, competition will be fierce, up to deadly wars.
- b) Military technology is profitable!
- c) Military technology is intimidating and other nations will respect us more!
- d) Military technology is unnecessary!

Talyplaryň biri Yhlas mugallyma sorady:

- Mugallym, sapagyňyzdan “başlijek” almak üçin näme etmeli?

Yhlas mugallymyň jogaby:

- Okamaly!

56) Which country is the top military exporter (arms exporter)?

- a) USA
- b) Russian Federation
- c) China
- d) Germany

57) Bloodiest war in history of humankind?

- a) Second World War
- b) First World War
- c) US-Vietnam War
- d) US-Iraq War

58) What is economics science?

- a) Economics is the science which searches for the most efficient ways of using all resources including natural, financial and human in order to achieve highest welfare in a long run.
- b) Economics is not an important science!

59) What is mercantilism?

- a) Mercantilism was dominant economic philosophy and policy for many nations up to XVIII century. It was believed that the only way nations could accumulate wealth were by exporting goods to other nations. Simple idea was that one nation's debit (revenue) was other nation's credit (expense). Selling to others more and buying less from others will make you rich! One can get rich only by expense of others! Fierce competition among nations for export markets led to many wars, colonization, monopolization, trade wars, sanctions, import restrictions, income inequality, slave trade and piracy. Rich got richer while poor got even poorer. Mercantilism was replaced by more efficient economic policy: Market-oriented (Market economy) at the end of XVII century.
- b) Being too greedy.
- c) Loving supermarkets and shopping.

60) What are fundamental principles of market economy?

- a) Basic fundamental principles of market economy are three: 1) Competition 2) Prices are determined by supply and demand (market) 3) Government regulation against market failure.
- b) Basic fundamental principles of market economy are two: 1) Competition 2) Prices are determined by supply and demand (market).
- c) Basic fundamental principles of market economy are four: 1) Competition 2) Prices are determined by supply and demand (market) 3) Government regulation against market failure 4) Trade.
- d) Basic fundamental principle of market economy is free competition.

61) What is command economy?

- a) Command economy is the economy where supply of goods and services are done by command of some central committee (government agency). Prices and quantity to be produced is totally under control of the government.

- b) Command economy is opposite of market economy.

62) What is terrorism and what is terroristic organization?

- a) Criminal organizations (mafia's, gangs, drug cartels, etc.) have single target only-to make money, thus purpose of creation of criminal organization is financial benefit and in order to achieve it they use force (murder, threat, kidnapping, blackmail, etc.). The purpose of creation of terrorist organizations is political targets. All terrorist organizations have political targets (independence, racial or religious discrimination, political reform, etc.) and to achieve their targets they use force (bombing, armored fighting, etc.). Use of force in all countries is only allowed to government (army, law enforcement, etc.) by law and only to bring peace and order to society and when national security concerns arise. Activity of criminal and terroristic organizations is illegal in all countries.
- b) All uprisings are done by terrorists!
- c) If group of people is against government policy, they are terrorists!
- d) All religious organizations are terrorists!

63) The most notorious terrorist organization in 2023?

- a) Islamic State of Iraq and Levant (ISIL), Middle East
- b) Al-Qaeda, Middle East
- c) FARC, Latin America
- d) White Power, USA

64) What are the pros and cons of urbanization?

- a) Urbanization means due to inflow of people to certain area, turning this area into the city, and later on to municipal area. One of the main reasons why people come to certain area and choose for living is due to its climate and excellent environment for newly inhabitants (river, sea, ocean, fishery, port, trade route, arable land, good climate, etc.). Good climate and friendly environment are excellent conditions for population increase. As population increase, consumption increase which means increase of production and trade. Production and trade create many jobs and this also attracts newcomers to this area. More trade and more people mean more taxes for local government. More taxes mean better defense and other public goods supplied. Quantity of public goods, common goods and private goods consumed and produced attracts many other new inhabitants. This creates more consumption and more wealth. Urban areas with high population creates more jobs and more wealth, this is economic fact. At the same time, more population means more pollution, more stress and more crime. Big cities create big wealth due to consumption of city population. Big cities also suffer from noise, pollution, and high crime rate.
- b) Urbanization is not beneficial; everybody must leave in small towns.
- c) Urbanization hurts ecology!

65) Largest cities by population in 2023?

- a) Tokyo, Japan. Estimated city population is around 40 million people.
- b) Jakarta, Indonesia. Estimated city population is around 35 million people.
- c) Chongqing, China. Estimated city population is around 32 million people.
- d) Istanbul, Turkiye. Estimated city population is around 27 million people.

66) What is the economic benefit of education?

- a) Labor force is one of the means of production! When raw diamond is mined from ground it looks not that pretty and the price of raw diamond is much cheap. Then this diamond is washed and cut and given good shape. It takes several steps in order to achieve beautifully clean cut diamond which bling so bright! Clean cut ready diamond's market price is much higher and profit margin gets bigger. Same is true for labor force. Labor force without education is like a raw diamond. It is not that valuable. When labor force is given education, and increases human capital, it becomes extremely valuable because only with quality education labor force is capable of producing advanced technological goods whose profit margin is much higher than simple raw goods. Only educated labor force can produce planes, communication technologies, pharmaceutical goods and equipment and many other highly profitable goods. Uneducated labor force will produce only cheap simple or agricultural goods which is not valued that high in international markets. Economic development is impossible with uneducated labor force. Development and growth will remain in basic stage if not invested in education!
- b) Smarter people smarter devices!
- c) High quality universities attract more tourists!
- d) Universities decrease corruption!

67) Which university below has endowment (budget) lesser than 20 Billion USD in 2023?

- a) Moscow State University named after Lomonosov
- b) Harvard University, USA
- c) University of Oxford, United Kingdom
- d) Yale University, USA

68) How unemployment impacts humans?

- a) Long term unemployment impact individuals and society negatively. Attained skills melt down, bad habits (alcohol consumption, cigarette smoking, etc.) increase, total consumption decreases, income cut results in social degradation, health status deteriorates, criminal activity accelerates (prostitution, robbery, bribery, fraud, murder, theft, drug trafficking, human trafficking, organ trades, etc.), social unrest increases, and divorce rate increases.
- b) High unemployment decreases wages!
- c) High unemployment increases migration!
- d) High unemployment increases money laundering!

69) Which country has highest unemployment rate in 2023?

- a) Djibouti
- b) Botswana
- c) Gabon
- d) Equatorial Guinea

70) Why corruption is “deadly” for economic development?

- a) Corruption is “deadly” for economy because it distorts the efficient allocation of resources in an economy. Corruption paralyzes “regulatory” and “enforcement” bodies of government causing markets function “unregulated”. In unregulated markets monopolization accelerates, standards of production and services drop drastically, ecological control vanishes, tax collection dampens by causing government revenues drop drastically, unfair competitions increases causing good companies go out of the market while cheaters always win, copyrights and customers rights disappear and income inequality gap hugely increases. These things increase social cost of consumption and production in an economy forcing prices up, which heavily drain last drop of welfare of people. The danger of “corruption” is in its “paralyzing impact” of government regulation. Corruption demolishes regulatory function of government, leaving society in the hands of bunch of predators. Corruption will slowly infect all aspects of life from media to education, from military to health slowly causing paralysis of whole country. Corruption is like an AIDs (AIDs kill immune system of the body leaving body defenseless against any virus attack), it kills government’s regulatory (defense) mechanism against detecting wrongdoings. Thus, government infected with corruption will not see any wrongdoings, any irregularity in economy because its regulatory function is paralyzed. Real state of issues will never be detected by government officials because all reports from regulators will come as “perfect”.
- b) Corruption is part of life, so take it easy!
- c) Corruption is not bad, if you are the one who signs the papers.
- d) Corruption is done everywhere, so it cannot be dangerous for life!

71) Country with highest corruption rate?

- a) South Sudan
- b) Pakistan
- c) Myanmar
- d) Mexico

72) Lobby is a special interest group (Cotton producers lobby, Gun manufacturers lobby, etc.) which targets to influence government decisions on their own benefit through financing and promoting political figures (president, governors, senators, etc.) openly. Long words short, lobbying is legal corruption which basically go with motto: “I pay

you; you do not go against me and support me!” (No increasing taxes, no restrictions, etc.). In which country lobbying is illegal?

- a) Iran
- b) USA
- c) Japan
- d) Israel
- e) United Kingdom
- f) Germany

73) What is the essence of religion, tradition and culture for societies?

- a) All main religions of the world (Islam, Christianity, Hinduism, Buddhism, Jainism, Shinto, etc.) encourage their followers to have basic principles in life like: No lying, no killing, no stealing, no abuse, no force, no waste, etc. which must be followed in order to reach target in afterlife (Heaven, Nirvana, etc.). These strong principles make individuals less likely to commit any crime which brings peace and harmony to society, and also more resistant to unethical and immoral actions like corruption, discrimination, egocentrism and plutocracy, which is the main degrading social infection. Tradition and culture unites people, it helps society to overcome any difficulty, increases morale and harmony in society.
- b) As number of mosques, churches, synagogues, temples increase, crime rate decreases!
- c) Religiousness adds some meaning to life and makes people less egocentric!
- d) Religion is nonsense, it should be eradicated!

74) Which religion has largest number of believers?

- a) Christianity, around 2.4 Billion people
- b) Islam, around 2 Billion people
- c) Agnostics/Atheists, around 1.1 Billion people
- d) Hinduism, around 1 Billion people
- e) Buddhism, around 0.4 Billion people

75) Why some societies developed so fast while some remained in its archaic stage?

- a) Development and progress depends on “political will”. Societies move toward targets their leaders marked!
- b) Some societies are uneducated while some are very well educated. Development and progress depends on education level of society.
- c) Development and progress depend on quantity and quality of natural resources nations possess.
- d) Development and progress depend on religiousness of the society. Less religion, more development.

76) China and India has almost same amount of population, and back in 90's their GDP were close. So, how come China grew so fast while India stagnated past 30 years?

- a) Deng Xiaoping of China (leader of Chinese government) made correct decisions and reformed China's economic and social policies. He was great leader who timely changed ideology with pure pragmatism.
India still suffers from extreme competition of political parties. At times, it looks like Indian political parties are giving more importance to competition with each other rather than focusing on development and growth of a nation. India's stagnation is due to leadership crisis!
- b) Chinese are more hard workers compared to Indians
- c) India has high corruption rate.
- d) India's average education level is lower than China's.

77) Who started China's economic reforms towards market economy?

- a) Deng Xiaoping
- b) Mao Zedong
- c) Si Jinping
- d) Batman

78) Population is "curse" or "blessing" for economic development?

- a) Population is definitely a blessing! One should never forget that human capital is one of the important "means of production" and it is actually the most valuable resource one nation can have. The reason of such a high value of human capital is due its high cost. How many years it takes to become world class surgeon? How many years it takes to become professional economist, analytic, engineer, or architect? Decades! Decades of investment into education, hundreds of thousands of USD spent makes human capital the most valuable resource ever! Unfortunately, it became so popular to blame people, overpopulation in all fallacies. China has the same population as India but average Chinese is 5 times better off than its Indian counterpart. Japan has 170 million people living in prosperity while North Korea is struggling with its population quarter of that of Japan. USA has over three hundred million people living in high standards while Russia is struggling with half of that population of USA with giant land area! Population is blessing, unskilled politicians are curse of the nation!
- b) Population is curse, lesser people the better the life!
- c) Population is curse, resources are blessing!
- d) More population, more the trash!

79) Top countries by population density (area/population, city states and special autonomous regions are omitted)?

- a) Bahrain
- b) Bangladesh

- c) Japan
- d) India

Hossary, aňyrrakda müzzerip duran selbi boýly nurana talyp gyzyna eli bilen görkezip:

- Meniň gyzyma nädip “ikilik” goýmagy dözüp bildiňiz, mugallym? Yhlas mugallymyň jogaby:
 - Men talyplaryň ylmyna baha goýýan, sypatyna däl!

80) What are the secrets of “Asian development miracles”?

- a) There is no secret except “political will” of leaders of those nations. Degrading nation is the result of “degrading politicians”. Developing and prospering nation is also due to “mighty and skilled politicians”. There are many examples of great politicians who contributed to their nation’s prosperity and wealth as well as there are much of negative examples when countries literally robbed by their own heads of state! No matter what, no matter how democratic is the society or how strong and independent political and economic institutions are, societies still depend on elected leader’s skill and strong will!
- b) Asians are hard workers!
- c) Asians had struggled a lot in history so they know how to succeed in life.
- d) Asians are highly educated!

81) Poorest country in the world in 2023?

- a) Burundi
- b) Niger
- c) Peru
- d) Laos

82) What socio-economic benefits brought to societies building huge structures like pyramids, colossus, gardens, etc.?

- a) Colossus, Gardens of Babylon, Pyramids and many other ancient wonders of the world is still boggling human minds in our time. Although there are still more questions than rational answers on functional importance of those magnificent buildings. Nevertheless, same as in our times, mega-structures of ancient times were used as showcase of power, wealth, and development of that society. Eiffel Tower of Paris, Liberty Statue of New York, Statue of Jesus Christ in Rio, Giant statues of Buddha in Asian continent, and many other statues of modern world has less

importance as function but carries more importance as a showcase of economic, political and social development of that certain society.

- b) It attracted tourists at those times!
- c) Kings, pharaohs, emperors had too much money that they did not know where to invest.

83) Which one below is not a megaproject of 21st century?

- a) Artificial Intelligence
- b) Supercomputers
- c) Fifth generation fighter jets
- d) Intercontinental ballistic missiles
- e) Atomic submarines

84) What makes human beings special than other living organisms?

- a) Although there are many theories and hypothesis on creating/evolution of human being, genetics science showed that each living organism has unique genetic code which means that nobody is evolved from anybody. Genetic codes are unique and unchangeable. Mutations (accidental change of genetic code due to radiation or any other reasons) occur so rarely that mutants are unable to impact population anatomy anyhow. While size of the biological organisms can change, genetic code and habits stays the same. No evolution is witnessed past thousands of years, so evolutionary theory dies on its own. It is more rational to believe that there were much more variations of biological organisms before and these majorities of organisms had died off leaving earth with organisms we see today. Evolutionary theorists say that majority of organisms evolved (constantly changed) and become organisms we see today. Both genetics science and no evolutionary occurrence witnessed past thousands of years make evolutionary theory a mere fantasy of few scientists. If we look attentively to all living organisms it is not that hard to see that our biological activity is similar (oxygen, giving birth, growing, nurturing, dying, eating, etc.) but we are not the same! All living organisms have same mechanism but all of them are different machines! Similarity of our biological activity points that all living organisms were created by the same Creator! But it does not mean that all living organisms evolved from single living cell. Life productivity and functionality of human being is incomparable with that of other organisms. Least to say is that there is no living organism which explores the space, except humans! Human being is “special creation”; this is the fact, no matter how hard scientists want to make human being as simple as “evolved chimpanzee”.
- b) Nothing! Human being is evolved chimpanzee!
- c) Human being is evolved from fish!
- d) Human being is evolved from aliens!

85) Robots, artificial intelligence, space technology and digitalization will increase common benefit or decrease it?

- a) Throughout history of humankind economic development occurred by new technologies destructing old jobs and creating new jobs. Growing number of population on planet earth is showcase of development and growth. Technologies never distracted growth; instead, technologies always pushed the growth and development to the higher levels. Technologies increased productivity, increased efficiency, increased transparency in an economy. It is very irrational to believe that new technologies will decrease common benefit of humankind.
- b) Robots and artificial intelligence will take over our planet!

86) Which country below is not heavily investing into artificial intelligence?

- a) Spain
- b) USA
- c) China
- d) Great Britain
- e) Japan

87) Why human beings commit crime?

- a) There are many reasons for committing crime.
- b) Human beings commit crime for money only!
- c) Human beings commit crime for love!
- d) Human beings commit crime for the sake of committing crime!

88) Which country below has highest crime rate in 2023?

- a) Venezuela
- b) Papua New Guinea
- c) South Africa
- d) Honduras
- e) Trinidad and Tobago

89) What is the cost of incarceration?

- a) Cost of incarceration is extremely high both for individuals and an economy. USA is one of the top countries where rate of incarceration is very high. Especially when incarcerated for small reasons. Incarceration is harshest punishment after death penalty, and should be used for crimes like: murder, rape, pedophilia, racketeering, drug trafficking, human trafficking, armed assault, spying, kidnapping, terrorism, terrorism financing, organizing criminal gang, money laundering, and corruption where human life and security of society is under huge risk. All other crimes should be settled by financial penalty or work penalty where guilty is forced to pay for his/her deeds or, in case if payment option is not applicable, guilty must do some public work (mines, construction works, cleaning of streets, trash bin collection, etc.). First of all incarcerating someone even for small amount of time places big risk for health of that person, puts some pressure on his/her family (and kids) because they

have to financially support the guilty, also it is an income tax loss for government because that person were paying income taxes (at least) before the incarceration and would not be able to pay it after incarceration, it hurts government because now government must also minimum feed the guilty and pay for his/her medical checkups, government also loses human capital (especially if guilty has high human capital: doctor, engineer, it specialist, etc.) and social pressure after time done in prison is needless to even mentioning. Incarceration is medieval method of penalizing someone, and in 21st century, methods of penalization must change drastically. Incarceration is costly for all: for government (loss of taxes, loss of human capital), for family of individuals (social pressure, kids without parents, financial burden) and for individual himself/herself (deterioration of health, mental pressure, income loss, assimilation problem after time done). Financial penalty and public work should be used for minor crimes! Incarceration should be used for major crimes only!

- b) The harsher the penalty, the lesser the crime!
- c) Incarceration should be used pretty often; society will be more law obedient!
- d) Long term incarceration creates incarceration culture, which is also deadly for incarcerated people!

90) Why some actions are legal in some countries while it is illegal in others? Legality and illegality reasons?

- a) Legality and illegality of certain actions in a country depends on political, social, economic and religious course/pathway of that country. Laws, regulations and ethical norms of societies (nations/countries) may differ and all countries must respect each other's differences. As an example: alcohol consumption is illegal in Saudi Arabia due to religious reasons; all visitors must respect that law of sovereign state instead of criticizing. There is no universal rule that one nation's laws and ethical norms must dominate the whole world. Even though an attempt of "cultural domination" of the world is made by USA and European nations, one must never forget that each society (sovereign state) has a right to live as they choose to. If something is legal in your country, does not mean that it must be legal everywhere else!
- b) Alcohol must be legal everywhere!
- c) All nations should come up with one giant Constitution where legal and illegal actions must be determined and must be equal for all nations!
- d) Legality and illegality of certain actions depend on religiousness of that society.

91) What is "cultural domination"?

- a) Societies grow and develop to nations. Nations expand and build countries. Countries conquer, manufacture, trade and become empires. Empires get big, rich, powerful and influence nations around. Ethical, religious, economic and social norms of one nation gets into "blood" of another nation, this is called "cultural domination". Many Asian nations are influenced by Chinese culture because China was once a great power and biggest empire. Majority of nations are now influenced

by norms and “habits” of USA because USA has dominated the world as “superpower” over a half of century. The stronger, in economic and military terms, the nation, higher the “cultural domination” and “geopolitical influence”.

b) Societies exchange cultures too with the commodities in trade.

92) In which country prostitution is illegal in 2023?

- a) Spain
- b) Netherlands
- c) Germany
- d) USA
- e) Mexico
- f) Switzerland
- g) Austria
- h) Hungary
- i) Turkiye
- j) Latvia
- k) Greece

93) In which country marijuana (drug) is illegal?

- a) Japan
- b) Canada
- c) Georgia
- d) Mexico
- e) Spain
- f) South Africa
- g) USA
- h) Thailand
- i) Uruguay
- j) Colombia
- k) Jamaica

Kärdeşleriň biri Yhlas mugallyma sorady:

- Mugallym, siz musulmanmy?
- Musulmandyryn öýdüp umyt edýän.
 - Takyk bileňizokmy?
- ‘Bilmek aýry, bolmak aýry’ !

PART2: Mathematics for Economists

- 1) How this function looks like on graph (approximately) " $ay^3-by^2+cy=dx^6-fx^5+gx^4+hx^3-sx^2-x$ " if we know that it has a real solution?
 - a) If this function has real solution than it means that variable "y" has 3 roots and variable "x" has 6 roots which mean that on a graph, it is going to look like a curve which intersects x-axis 6 times and y-axis 3 times.
 - b) This function looks like circle.
 - c) This function crosses y-axis 6 times and x-axis 3 times.
- 2) $8^{2+\log_4 X} = 4,096; x = ?$
 - a) 16
 - b) 8
 - c) 4
 - d) 64
 - e) 128
- 3) $\log_{19}(X - 9) = \log_{361}(\log_8 8); x = ?$
 - a) 10
 - b) 1
 - c) 0
 - d) 11
 - e) 19
- 4) $A^{\log_B C} - C^{\log_B A} = ?$
 - a) 0
 - b) 1
 - c) A
 - d) C
 - e) B
- 5) $\log_{27} \sqrt[7]{7} * \log_{343} 81^5 = ?$
 - a) $\frac{20}{63}$
 - b) 1
 - c) $\frac{27}{81}$
 - d) 0
 - e) 5

6) $\log(x * y) = 2$, $\log(\frac{x}{y}) = -2$; $y = ?$

- a) 100
- b) 1,000
- c) 1
- d) 0
- e) 50

7) If $\log_6 3 = C$, find $\log_{27} 4$ in terms of C

- a) $\frac{2-2C}{3C}$
- b) 1
- c) $\frac{2}{3}$
- d) C
- e) C^3

8) $\frac{\log_2(\log_2 K^2)}{1 + \log_2(\log_2 K)} = ?$

- a) 1
- b) $\log_2 K$
- c) 2
- d) K
- e) $1 + \log_2 K$

9) $\log_7 5 * \log_5 3 * \log_3 4 = \log_7 (X + 2)$; $x = ?$

- a) 2
- b) 1
- c) 7
- d) 3
- e) 5

10) If $a = 4b^2\sqrt{c}$; then find $2\log_2 a - 4\log_2 b - \log_2 c$

- a) 16
- b) 1
- c) A
- d) B
- e) C

11) If a, b and c are all positive real numbers and $a * b = 9\sqrt{c}$ then find $\log_3 a - \log_{\frac{1}{3}} b - \frac{1}{2}\log_3 c = ?$

- a) 2
- b) 9
- c) 3
- d) 0
- e) 1

12) $\log_2 \sqrt[3]{x \sqrt[3]{x \sqrt[3]{x \sqrt[3]{x \dots}}} = 4; x = ?$

- a) 256
- b) 128
- c) 64
- d) 32
- e) 16

13) If $\log_x y^x + 4 = 0$ and $\log_y X^y + \frac{1}{4} = 0$; then $y = ?$

- a) 0.25
- b) 1
- c) 1.5
- d) 4
- e) 2

14) $\log_x y = \log_y x; x \neq y; x \neq 1; y \neq 1$; then find $x * y = ?$

- a) 1
- b) 2
- c) 4
- d) 9
- e) 81

15) If $\log_a x * \log_5 a = 3$; then $x = ?$

- a) 125
- b) 25
- c) 5
- d) 1
- e) 3

16) If $\log_{42} 3 = a$ and $\log_{42} 7 = b$ then find $\log_{42} 4$ in terms of a and b

- a) $2 - 2a - 2b$
- b) $2a + 2b$
- c) $4b - a$
- d) 1

e) $a - b$
 17) $2^{x+1} + 4^x - 80 = 0$; then $x = ?$

- a) 3
- b) 2
- c) 1
- d) 0
- e) 4

18) $\log \frac{\sqrt{a\sqrt{a\sqrt{a}}}}{\sqrt[3]{a^3\sqrt{a}}} = ?$

- a) $\frac{31}{72} \log a$
- b) 1
- c) a
- d) $\log a$
- e) a^2

19) For all X element of positive real numbers " $9^x - 1$ " is divisible by...

- a) 2
- b) 3
- c) 9
- d) 5
- e) 10

20) 150 students are running marathon for gold, silver and bronze medal prize. How many different winner combinations might this marathon have?

- a) 3,307,800
- b) 150
- c) 3,200,000
- d) 1,000,000
- e) 5,000,000

Ýaş mugallymlaryň biri Yhlas mugallyma sorady:

- Mugallym, talyplar sizi gaty sylaýarlar. Bir diýeniňiz iki gaýtaladanoklar. Bize welin zordan 'salamy' berýärler. Syry nämedir?

Yhlas mugallymyň jogaby:

Işini bilmeli!

- 21) There are 50 students in class whom 22 are boys and rest is girls. Three students are needed urgently and teacher randomly chooses them. What is the probability that all three will be girls?
- 17%
 - 30%
 - 47%
 - 50%
 - 56%
- 22) There are 50 students in class whom 22 are boys and rest is girls. Three students are needed urgently and teacher randomly chooses them. What is the probability that first one will be a boy, second is girl and third one is boy again?
- 11%
 - 15%
 - 25%
 - 44%
 - 56%
- 23) Four football teams are playing today and you are betting on them. What is the probability that all games will end with draw?
- 1%
 - 3%
 - 33%
 - 20%
 - 50%
- 24) Four football teams are playing today and you are betting on them. What is the probability that two games will end with win and two games will end with draw?
- 1%
 - 3%
 - 33%
 - 20%
 - 50%
- 25) Below is given football matches for this evening and their probabilities of winning, losing and draw estimated by brokers. Make a best bet!

Matches	A wins	B wins	Draw
A ₁ and B ₁	30%	50%	20%
A ₂ and B ₂	34%	23%	43%
A ₃ and B ₃	10%	64%	26%
A ₄ and B ₄	71%	8%	21%

A ₅ and B ₅	45%	49%	6%
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- a) B₁, B₃, B₅, and A₄ wins, second game ends with draw!
- b) A₁, B₃, B₅, and B₄ wins, second game ends with draw!
- c) B₁, A₂, A₃, A₄ and A₅ wins!
- d) A₁, B₂, B₃, and A₄ wins, fifth game ends with draw!
- e) B₁, A₃, B₅, and A₄ wins, second game ends with draw!

26) Use information given in question 25; what is a probability of occurrence of best bet?

- a) Around 5%
- b) Around 32%
- c) Exactly 10%
- d) Exactly 12%
- e) Guaranteed 27%

27) Use information given in question 25; what is a probability of occurrence of best bet if broker gives 30% failure rate of estimates?

- a) Just above 3%
- b) Below 3%
- c) Around 5%
- d) Exactly 7%
- e) Guaranteed 9%

28) These numbers are given: 0,2,3,4,7,8,9. How many 5 digit even numbers could be constructed using given numbers?

- a) 8,232
- b) 9,454
- c) 5,390
- d) 9,098
- e) 3,546

29) Use information given in question 28; how many 7 digit numbers could be constructed divisible by 3 using above given numbers (each number could be used once when constructing a 7 digit number, no repetition of numbers allowed! Also, first digit cannot be zero)?

- a) 4,320
- b) 705,840
- c) 45,900
- d) 23,430
- e) 67,890

- 30) Use information given in question 28; door lock has a 3 digit code which ends with number 9. How many combinations of numbers must be tried to break the code?
- a) 49
 - b) 81
 - c) 77
 - d) 256
 - e) 727
- 31) Use information given in question 28; door lock has a 5 digit code which is divisible by five (first digit cannot be zero). How many combinations of numbers must be tried to break the code?
- a) 2,058
 - b) 5,500
 - c) 3,401
 - d) 9,999
 - e) 1,250
- 32) There are 4 romantic novel, 9 historical novel, 8 crime novel and 2 biographical novel books. In how many different ways these books could be placed in bookshelf?
- a) 25,852,016,738,884,976,640,000
 - b) 12,465,900
 - c) 908,768,543,665,000
 - d) 5,750
 - e) 2,000,000
- 33) 7 girls and 4 boys must be sitting around round table. In how many different ways they could be sat?
- a) 3,628,800
 - b) 2,408,500
 - c) 28
 - d) 598
 - e) 2,400
- 34) There are 3 black, 4 white, 2 brown, 3 yellow and 1 green balls. In how many different ways these balls could be lined up?
- a) 3,603,600
 - b) 34,670,000
 - c) 1,555,000
 - d) 543,700
 - e) 2,000,000,000,000

- 35) These numbers are given: 9,9,4,4,4,4,3,7,7,7,7,7,0,0,8,8,8,8,8,8,8,8,5,5,6,6,6. How many 10 digit numbers could be created using those numbers where no equal two numbers stand back to back to each other. Example: 4087979840 is correct and 880744... is incorrect! Also, numbers never start with zero!
- 550,731,776
 - 230,500
 - 2,000,000,000
 - 587,840
 - 688,920
- 36) 11 parallel lines are crossed with 9 other parallel lines. How many rectangles are created?
- 1,980
 - 56
 - 2,000
 - 900
 - 121
- 37) When $9x^{97} + 3x^{91} + 50x^{85} + 89x^{79} + 19x^{73} + 8x^{67} + 9x^{61} + 100x^{55} + 87$ divided by $x^7 + x$, first six variables will be ...
- $9x^{90} - 6x^{84} + 44x^{78} + 45x^{72} - 26x^{66} - 16x^{60} \dots$
 - $9x^{60} - 3x^{37} + 54x^{24} + 41x^{15} - 36x^6 - 16x^2 \dots$
 - $90x^{90} - 17x^{84} - 14x^{78} - 25x^{72} - 86x^{66} + 4x^{60} \dots$
 - $90x^{80} - 18x^{34} + 44x^{22} + 45x^{12} - 26x^6 - 16 \dots$
 - $19x^{92} - 6x^{88} + 24x^{64} + 45x^{51} - 6x^{36} - 8x^{20} \dots$
- 38) A player offers a simple game of drawing cards from 52 playing cards. A player will put 52 playing cards face down on the table and will name any card, Ace of spades for example. You must try to choose one card from the cards on the table, if you could choose Ace of spades; a player will pay you 20 times more than your bet. If you could not choose the card, then you will lose your bet. Is this a fair game?
- No
 - Yes
 - Maybe
 - Gambling is not good!
 - I should ask my mom about this.
- 39) There are 51 students in class of whom 31 students passed from their economics exam and 29 of them passed from econometrics exam and only 17 of them passed both exams successfully. One student randomly was chosen from this class and it is known that she has passed econometrics exam successfully. What is the probability that she had failed her economics exam?

- a) Around 42%
- b) Around 18%
- c) Exactly 30%
- d) Guaranteed 25%
- e) 100% because I know her!

Zähmetsöyer kärkeşleriniñ biri gelip Yhlas mugallyma nalyndy:

- Mugallym, men-ä düşünilýän dälidirin. Adamlara ‘eýtseñem’ ýaranyp bolanok, ‘beýtseñem’ ýaranyp bolanok. Onda näme etmeli-kä?

Yhlas mugallymyň jogaby:

- Oňa-muňa ýaranjak bolup ýörmän, işiňi etmeli!

40) Three dices are tossed at the same time. What is the probability that 6 will come up in all of them?

- a) Around 0.5%
- b) Around 6%
- c) 100% Guaranteed!
- d) Around 10%
- e) Around 16%

41) $3^{1002} - 2^{501}$ is divisible by ...

- a) 7
- b) 8
- c) 2
- d) 5
- e) 4

42) $19^{17} + 23^{17}$ is divisible by ...

- a) 42
- b) 23
- c) 19
- d) 4
- e) 15

43) $n^3 - n$ is divisible by ...

- a) 3
- b) 4
- c) 5

- d) 6
- e) 7

44) $12^{9076} + 10$ is divisible ...

- a) 11
- b) 12
- c) 10
- d) 13
- e) 22

45) $\prod_{n=7}^{2400} \log_n(n+1) = ?$

- a) 4
- b) 2,750
- c) 22
- d) 235
- e) 9,000

46) $\sum_{p=1}^{71} (p-1)(p^2 + p + 1) = ?$

- a) 6,533,065
- b) 34,544,721
- c) 4,903,875
- d) 134
- e) 2,400

47) $\prod_{k=1}^{6666} (k^2 - k - 90) = ?$

- a) 0
- b) 90
- c) 6,666
- d) ∞
- e) 4,356

48) $2.9 + 5.9 + 8.9 + 11.9 + 14.9 + \dots 3,599.9 = ?$

- a) 2,161,680
- b) 3,600
- c) 13,457,900
- d) 5,040,400
- e) 7,777,777

49) $\prod_{n=1}^p \sum_{k=1}^n (2k-1) = ?$

- a) $(p!)^2$

- b) $p!$
- c) p
- d) $2k$
- e) n

50) $\sum_{k=0}^{25} 8^k = ?$

- a) 43,175,922,129,093,899,096,649
- b) 398,564,852,847,002,514
- c) 123,456,789,123,456,789
- d) 1,000,000,000
- e) 8,888,888,888,888,888

51) $\sum_{k=1}^{\infty} \left(\frac{7^n - 8^{n-1}}{9^n} \right) = ?$

- a) 2.5
- b) 9
- c) 1,204
- d) 15
- e) 49

52) $\lim_{n \rightarrow \infty} \left(\frac{2n^2 + 1}{\sum_{k=1}^n k} \right) = ?$

- a) 4
- b) 2
- c) 1
- d) 0
- e) ∞

53) *Geometric regression is given as $a_1 + a_2 + a_2 + a_4 + a_5 = 31$ and $a_2 + a_3 + a_4 + a_5 + a_6 = 62$; $a_6 = ?$*

- a) 32
- b) 31
- c) 1
- d) 5
- e) 61

54) *Arithmetic regression is given as $5, a_2, a_3, a_4, a_5, 50 \dots$; then $a_{1017} = ?$*

- a) 9,158
- b) 3,345
- c) 10,876
- d) 2,904
- e) 6,890

55) $\sum_{k=1}^{\infty} \frac{900}{10^{k-1}} = ?$

- a) 1,000
- b) 10,000
- c) 100
- d) 10
- e) 1

56) $\lim_{n \rightarrow \infty} a_n = 8$; then $\lim_{n \rightarrow \infty} \left(\frac{a_n^2 - 3a_n - 4}{a_n^2 - 16} \right) = ?$

- a) 0.75
- b) 9
- c) 8
- d) 12
- e) 0.5

57) Arithmetic regression series is given with $a_{1001} + a_{1002} + a_{1003} + a_{1004} + a_{1005} = 20,050$ and $a_1 = 2$; find regression number!

- a) 4
- b) 5
- c) 8
- d) 10
- e) 2

58) $y = \sqrt{-x^2 - 8x - 15}$; solution set of this function =?

- a) (-5, -3)
- b) (3, 5)
- c) (-3, 5)
- d) $(-\infty, -5)$
- e) $(3, \infty)$

59) $\lim_{n \rightarrow -\infty} (\sqrt{4x^2 + 7x + 9} + 2x - 3) = ?$

- a) -4.75
- b) 4.75
- c) -6
- d) -9
- e) -1

60) $\lim_{y \rightarrow x} \left(\frac{y^3 - x^3}{y^2 - x^2} \right) = ?$

- a) $1.5x$
- b) $2x$
- c) $2y$
- d) $10y$
- e) X

61) $\lim_{a \rightarrow +\infty} \left(\frac{3^x - 3^{-x}}{3^x + 3^{-x}} \right) = ?$

- a) 1
- b) -1
- c) -2
- d) 2
- e) 3

62) $4xy^2 - 3xy - x + y = 0; \frac{dy}{dx} = ?$

- a) $\frac{-4y^2 + 3y + 1}{8xy - 3x + 1}$
- b) $4x$
- c) $\frac{4y^2 - 3y - 1}{8xy + 3x + 1}$
- d) 3
- e) 0

63) $\int_4^9 \left(\frac{1 + \sqrt{x}}{\sqrt{x}} \right) dx = ?$

- a) 24.67
- b) 22.5
- c) 20
- d) 3
- e) 9

64) $\int_0^1 (2x + 1)e^{x^2 + x + 1} dx = ?$

- a) $e^3 - e$
- b) e^2
- c) e
- d) 0
- e) 1

65) $A = \begin{bmatrix} 4 & 0 \\ 3 & -4 \end{bmatrix}; A^{80} \text{ matrix} = ?$

- a) $2^{160} * I_{2 \times 2}$
- b) 1

- c) 4
- d) Undefined
- e) $\begin{bmatrix} 4,000 & 0 \\ 3,000 & -4,000 \end{bmatrix}$

66) $A = \begin{bmatrix} 3 & 1 & 2 \\ -1 & 2 & 3 \\ 1 & 4 & 0 \end{bmatrix}$; *determinant of matrix A =?*

- a) -45
- b) 45
- c) 55
- d) 25
- e) 35

67) $A = \begin{bmatrix} -1 & 5 & 2 \\ 2 & 4 & -4 \\ -3 & -2 & 6 \end{bmatrix}$; *rank of matrix A =?*

- a) 2
- b) 3
- c) 4
- d) 5
- e) 6

68) Find the length of the vector $\vec{P}$ (7, 4, 5) in space.

- a) Approximately 9.5
- b) Approximately 7.5
- c) Approximately 6.5
- d) Approximately 5.5
- e) Approximately 4.5

69) Coordinates of two points in space is given as A (2,8,9) and B (5,5,8). Find distance in between these points.

- a) Approximately 5.1
- b) Approximately 5.5
- c) Approximately 9.5
- d) Approximately 8.5
- e) Approximately 8.8

70) Ellipse $\frac{x^2}{18} + \frac{y^2}{8} = 1$ and line $2x + 3y + 12 = 0$ has a tangent point. Find those points.

- a) P (-3,-2)
- b) P (3,2)

- c) P (-2,-3)
- d) P (1,5)
- e) P (-3,-1)

71) Find area of the ellipse $\frac{x^2}{81} + \frac{y^2}{121} = 1$

- a) Approximately 311
- b) 99
- c) Exactly 244
- d) This is parabola and it does not have closed area!
- e) 130

72) Hyperbole $\frac{x^2}{57} - \frac{y^2}{19} = 1$ and line $y = -4x + a$ have tangent points; $a = ?$

- a) Approximately ± 23.5
- b) Approximately -31
- c) Approximately 19
- d) Approximately 57
- e) They cannot have tangent points.

73) Find intersection points of line $y - 3x - 4 = 0$ and parabola $y^2 = 64x$ in space.

- a) P (4,16) and P (0.44, 5.33)
- b) P (4,16) and P (-0.44,-5.33)
- c) P (-3,9) and P (10,1)
- d) P (-5,-2) and P (7,-2)
- e) P (-6,-7) and P (2,2)

74) Find the radius of sphere $x^2 + y^2 + z^2 - 2x + 4y - 6z - 2 = 0$

- a) 4
- b) 5
- c) 6
- d) 7
- e) 8

75) Solve the system $\begin{cases} 2x + y + z = 3 \\ 3x - y + 4z = 7 \\ 8x - y + 9z = 17 \end{cases}$

- a) $z=2, y=1$ and $x=0$
- b) $z=3, y=2$ and $x=-1$
- c) $z=2, y=3$ and $x=-2$
- d) $z=4, y=-3$ and $x=0$
- e) $z=3, y=-3$ and $x=2$

76) Probability of break-down of one of equipment is 3%. What is the probability that no equipment will break-down whole week (6 days working schedule)?

- a) 83%
- b) 97%
- c) 100%
- d) 37%
- e) 50%

77) Farmer has 3 tractors: A, B and C. Probability of break-down of A is 5%, B is 9% and C is 14%. What is the probability that at least one of them will break-down today?

- a) 74.28%
- b) 74.34%
- c) 72%
- d) 14%
- e) 78%

Talyplaryň biri Yhlas mugallyma ýallaklap:

- Mugallym, siz ýaly mugallymy nädip söýüp-sylaman bolar?

Yhlas mugallymyň jogaby:

- Men nämejik, pygamberlere duşmançylyk edenlerem geçdile bu dünýäden!

78) Mahri loves Merdan. One day Merdan heard Mahri saying “I love monkeys”. Merdan came to logical conclusion:

- a) Mahri’s love of monkeys has nothing to do with her love to me.
- b) Since Mahri loves me, I am a monkey
- c) Since Mahri loves me, she thinks I am a monkey. She does not know that I am not a monkey.
- d) Mahri loves monkeys, she does not love me.
- e) Do monkeys know about Mahri’s love?
- f) Since Mahri loves monkeys, she thinks she is a monkey.
- g) Monkeys love monkeys, humans love humans. If Mahri loves monkeys, she is monkey.

79) Batyr said one day “In order to teach something others, one must know the subject better than someone who is being taught”. Explanation of this logic:

- a) Teaching is a process of transferring knowledge about subject, attained through experience, hard work and skill to others. Process itself demands that the one who teaches has to have more knowledge than the one who is being taught. Process does not work reversely.
- b) Only good drivers can teach others driving!
- c) Teachers always know more than students!
- d) It is impossible to teach someone something if you do not know the subject matter
- e) Surgeons are doing surgery because they are doctors.
- f) Auditors do audit because they have a license.

80) Jennet is a zoologist and once she said that “In animal societies, only physically strongest ones will be leaders”. Logical explanation might be:

- a) Physical strength is vital in animal societies.
- b) Animals’ respect and love power!
- c) Physically strong ones can bring their societies more happiness and food.
- d) Physically strong animals are so attractive that animals generally support them.
- e) Animals go to gym very often.

81) “Cities were built around Central Square, and were in circular form”. Which one below is a right conclusion?

- a) This sentence is about some cities but it does not say anything about which, where and when. That is why we cannot generalize the notion of cities from this sentence only.
- b) Cities have central squares.
- c) Cities are in circular form
- d) City without central square is not a city
- e) Cities might be in any shape and may or may not have central squares.
- f) Cities must also have fountains, zoo, library and bars.
- g) City is a place where bunch of people live.
- h) Circle is the most efficient geometrical shape that is why people love circles.
- i) This sentence talks about cities where elves and goblins live.

82) Batyr and Jennet were asked to describe a crocodile with one sentence only. Batyr said “Crocodile is green” and Jennet said “Crocodile is big”. They are both correct, but who is more correct and why?

- a) Jennet is more correct. We all know that crocodiles have greenish brown color that is why Batyr’s information adds nothing about the crocodile. Jennet’s information is more beneficial because it is about size of the crocodile. According to her information it is a mature crocodile that is why it might be dangerous to go into waters!
- b) Batyr is more correct because all crocodiles are green!

- c) Jennet is false because wears glasses and today she forgot the glasses.
 - d) Jennet is correct because I am a feminist!
 - e) Batyr is correct because my best friend's name is Batyr!
- 83) Shabibi trained well for marathon but she could not win the first prize. She was not even among the medalists, thus, she could not even get a bronze medal. Correct conclusion?
- a) There were those who were more prepared than Shabibi for this marathon!
 - b) Those who won - cheated!
 - c) Shabibi is natural loser; she should not be in sports at all!
 - d) She should try boxing!
 - e) She is overweight, she should try sumo!
- 84) Men and women compete separately in modern sports due to physical differences (See sports competition results please!). What will happen if this separation of sexes in sports will end?
- a) Women will get medals rarely, if at all due to physical differences! This will discourage many women from sports.
 - b) This will be fair! Let the best ones compete regardless of their sexes!
 - c) This will be awesome! Seeing men and women punch each other in boxing ring!
 - d) This is going to be great! Finally men and women will be equal everywhere!
 - e) Men are always stronger!
- 85) "In order something to be believable, it must be rational!" Rationality of a human being depends on what?
- a) Knowledge
 - b) Physical strength
 - c) Natural beauty
 - d) Wealth
 - e) Health
- 86) "In ancient times humans believed into many things which in our times we call it myths. What was considered a cult and religion hundreds of years ago today we call it a mythology and fairy tales. Through attained knowledge, many societies understood irrationality of their beliefs. Few rational religions survived to our modern times." According to this paragraph, which religion today will not turn to myth in the future?
- a) The most rational religion today will not turn to myth in the future! The religion that is the most applicable to life, environment and addresses human problems the best! Have less "textual errors" and "irrationally blur" areas!
 - b) Hinduism
 - c) Buddhism
 - d) Christianity
 - e) Judaism

87) Who do you think could be made to believe into “irrational things” easier (fooled easier!)?

- a) Farmer
- b) Surgeon
- c) Politician
- d) Economist
- e) Engineer

88) “One of the main reasons of failure of Soviet Union as a state was “hardheaded stubbornness” of Soviet Communist Party leaders. Soviet Union had the best education system at that time. It is hard to make believe educated person of a “blurry socialism dream” of communists. Many people in early 70’s already understood irrationality of political and economic targets of communist politicians. Economic conditions of people were deteriorating. Change was needed. Instead of pragmatic economic and political reforms, like Chinese communist leaders did, Soviet party leaders kept the “singing the same song”. What is the best logical conclusion of this paragraph?

- a) You cannot fool people for a long time!
- b) Soviet leaders should cut on education spending and make people stupid! It would have been easier to rule over them!
- c) Chinese are well-done!
- d) Soviet Union had best education system!
- e) Educated people are enemy for politicians!

89) “Any belief if not supported by ... will evade eventually” Fill in the gap.

- a) Facts
- b) Tales
- c) Stories
- d) Sacrifices
- e) Miracles

90) “Law is nothing more than a beautiful poem if not applied, but turns to religion when applied fully” Logical conclusion:

- a) People take something seriously when they see the facts!
- b) There are a lot of beautiful poems!
- c) Law is a poem!
- d) Poem is better than law!
- e) Lawlessness is good for society!

91) “Teacher: Will you sell your finger for million dollars?
Student: No.

Teacher: See, we are all millionaires! Every finger worth million dollars.” What is wrong with teacher’s conclusion?

- a) Teacher used “subjective valuation” technique when proved his point of view. “Subjective valuation” is when something is valued according to subjective importance. Your fingers worth higher to you than to me! Your daughter is more valuable to you than to doctor for whom she is only a patient! “Subjective valuation” has a flaw because it is not a real value of the things. Your finger’s value is not that high in donor markets. Opposite of “subjective valuation” is “universal valuation”. “Universal valuation” is when value of something depends on universal (market) demand.
- b) Teacher is smart.
- c) Student is fool. She should sell her fingers for a million dollar and purchase another one for couple of thousand dollars
- d) Student is smart. Finger cost is two million dollars!
- e) I did know I was millionaire too!

Talyplaryň biri Yhlas mugallyma sorady:

- Mugallym, siz talyplara ‘köşek’ diýip köp ýüzlenýäňiz. Başgada ‘mähirli’ sözleriňiz barmyka?

Yhlas mugallymyň jogaby:

- Hawwa-la. “Doňňuzjyk” we ‘Eşek’ , halanyňy saýlaber!

PART3: Markets

- 1) Create such a demand and supply function so that current equilibrium price is 5,000 Manat and current consumption is 2,000,000 tons. When negative supply shock of 2,000,000 tons is applied, market price raises up to 7,000 Manat.
 - a) Demand=4,000,000-400P and Supply=600P-1,000,000
 - b) Demand=4,000,000-600P and Supply=400P-1,000,000
 - c) Demand=2,000,000-100P and Supply=800P-2,000,000
 - d) Demand=8,000,000-1,000P and Supply=600P-1,000,000
 - e) Demand=4,000,000-200P and Supply=800P-1,000,000
- 2) Create such a demand and supply function so that current equilibrium price is 800 Manat and current consumption is 10,000,000 tons. When positive demand shock of 2,000,000 tons is applied, market price raises up to 1,000 Manat.
 - a) Demand=11,600,000-2,000P and Supply=8,000P+3,600,000
 - b) Demand=11,600,000-8,000P and Supply=2,000P+3,600,000
 - c) Demand=12,600,000-1,000P and Supply=9,000P+3,600,000
 - d) Demand=11,600,000-3,000P and Supply=7,000P+3,600,000
 - e) Demand=10,000,000-5,000P and Supply=5,000P
- 3) Create such a demand and supply function so that current equilibrium price is 2,000 Manat and current consumption is 8,000,000 tons. When government imposed a price ceiling (maximum price) of 500 Manat, 3,000,000 tons of shortage was created in market.
 - a) Demand=9,200,000-600P and Supply=1,400P+5,200,000
 - b) Demand=9,200,000-1,400P and Supply=600P+5,200,000
 - c) Demand=9,000,000-500P and Supply=1,500P+5,000,000
 - d) Demand=10,000,000-500P and Supply=2,000P+2,000,000
 - e) Demand=9,200,000-800P and Supply=1,200P+5,200,000
- 4) Which one below can be used as a demand function?
 - a) $G(x) = 8,000$.
 - b) $T(x) = 300x - 340x^2$
 - c) $S(x) = 500x^3 - 3,000,000$
 - d) $D(x) = 5,000,000 - x$
 - e) $K(x) = 7,000x + 50,000$
- 5) Which one below cannot be used as supply function?
 - a) $T(x) = 300x - 340x^2$
 - b) $G(x) = 8,000$.

- c) $S(x) = 500x^2 - 3,000,000$
 - d) $D(x) = 5,000,000 / 350x$
 - e) $K(x) = 1,000,000,000x$
- 6) Can a country with only demand for good or service exist (no supply)?
 - a) Yes
 - b) No
 - c) I do not know, I should I ask my mom about it.
 - d) Interesting question, I need to think about it.
 - 7) Can a country with only supply for good and service exist (no demand function)?
 - a) Yes
 - b) No
 - c) May be
 - d) I do not know, I should ask Santa Clause about it.
 - 8) What can you say about demand function of a chemical if you notice such a thing that even if supply increases, price stays the same?
 - a) What can I say, simply wonderful!
 - b) Demand function is constant at a certain price!
 - c) Demand function is constant at certain quantity!
 - d) Demand function is awful and needs to be fixed!
 - e) Chemicals are extremely dangerous pollutants!
 - f) May I have a coffee please!
 - 9) Construct demand function of Mercedes-Benz which includes price of Mercedes-Benz, price of competitors of Mercedes-Benz, gasoline price, income of customers, luxury tax, safety standard of the Mercedes-Benz and comfort of Mercedes-Benz.
 - a) Mercedes-Benz sold = $\theta_1 - \theta_2 \text{Price of competitors} - \theta_3 \text{Gasoline price} + \theta_4 \text{Income} - \theta_5 \text{Luxury tax} + \theta_6 \text{Safety standards} + \theta_7 \text{Comfort} - \theta_8 \text{Price of Mercedes-Benz}$.
 - b) Mercedes-Benz sold = $\theta_1 + \theta_2 \text{Price of competitors} + \theta_3 \text{Gasoline price} - \theta_4 \text{Income} - \theta_5 \text{Luxury tax} + \theta_6 \text{Safety standards} + \theta_7 \text{Comfort} - \theta_8 \text{Price of Mercedes-Benz}$.
 - c) Mercedes-Benz sold = $\theta_1 - \theta_2 \text{Price of competitors} + \theta_3 \text{Gasoline price} - \theta_4 \text{Income} - \theta_5 \text{Luxury tax} + \theta_6 \text{Safety standards} + \theta_7 \text{Comfort} - \theta_8 \text{Price of Mercedes-Benz}$.
 - d) Mercedes-Benz sold = $\theta_1 - \theta_2 \text{Price of competitors} + \theta_3 \text{Gasoline price} + \theta_4 \text{Income} - \theta_5 \text{Luxury tax} + \theta_6 \text{Safety standards} + \theta_7 \text{Comfort} + \theta_8 \text{Price of Mercedes-Benz}$.
 - 10) Construct supply function of diamond which includes price of diamond, price of competitors of diamond (artificial diamonds), energy price, income of customers, luxury tax and ecological standards for diamond mining.

- Diamond mining = $\theta_1 + \theta_2 \text{Price of diamond} - \theta_3 \text{Artificial diamonds} - \theta_4 \text{Energy price} + \theta_5 \text{Income} - \theta_6 \text{Luxury tax} - \theta_7 \text{Ecological standards for diamond mining}$.
- Diamond mining = $\theta_1 - \theta_2 \text{Price of diamond} + \theta_3 \text{Artificial diamonds} - \theta_4 \text{Energy price} + \theta_5 \text{Income} - \theta_6 \text{Luxury tax} + \theta_7 \text{Ecological standards for diamond mining}$.
- Diamond mining = $\theta_1 + \theta_2 \text{Price of diamond} - \theta_3 \text{Artificial diamonds} - \theta_4 \text{Energy price} + \theta_5 \text{Income} + \theta_6 \text{Luxury tax} + \theta_7 \text{Ecological standards for diamond mining}$.
- Diamond mining = $\theta_1 + \theta_2 \text{Price of diamond} - \theta_3 \text{Artificial diamonds} - \theta_4 \text{Energy price} + \theta_5 \text{Income} - \theta_6 \text{Luxury tax} - \theta_7 \text{Ecological standards for diamond mining}$.
- Diamond mining = $\theta_1 + \theta_2 \text{Price of diamond} + \theta_3 \text{Artificial diamonds} + \theta_4 \text{Energy price} + \theta_5 \text{Income} + \theta_6 \text{Luxury tax} + \theta_7 \text{Ecological standards for diamond mining}$.

Yhlas mugallyma soradylar:

- Mugallym, ýaşlar has erjel we yhlasly okar ýaly näme etmeli?

Yhlas mugallymyň jogaby:

- Ylymly we bilimli adamlar üçin ýokary aýlykly iş ýerlerini döretmeli!

11) Analytic tries to understand why people commit crimes and constructed this function of crime for collecting data and further analysis. Use your common sense and check this function and find errors in signs of parameters of variables if any: ***“Number of crimes committed = $\theta_1 - \theta_2 \text{Income} + \theta_3 \text{Unemployment rate} + \theta_4 \text{Bank loan (indebtedness)} + \theta_5 \text{Number of police officers} - \theta_6 \text{Number of surveillance cameras} + \theta_7 \text{Punishment (in jail time)} + \theta_8 \text{Number of children in family} - \theta_9 \text{Marital status} - \theta_{10} \text{Education level} + \theta_{11} \text{Number of gang groups (mafia clans)} + \theta_{12} \text{Population}$***

- Sign of (θ_5) is wrong, it must be negative.
- Signs of (θ_5) and (θ_3) are wrong, they must negative.
- Signs of (θ_5) and (θ_7) are wrong, it must be negative.
- Sign of (θ_{10}) is wrong, it must be positive.
- Sign of (θ_2) is wrong, it must be positive.
- Sign of (θ_{13}) is wrong, it must be negative.
- Signs of (θ_{11}) and (θ_{12}) are wrong, it must be negative.

12) Demand = $7,000,000,000 - 20,000P$ and Supply = $80,000P - 1,000,000,000$ functions are given for rice in tons and Manats. What will be market price of rice and current consumption at that price?

- 80,000 Manats per ton and consumption will be 5,400,000,000 tons.
- 100,000 Manats per ton and consumption will be 5,000,000,000 tons.
- 70,000 Manats per ton and consumption will be 5,600,000,000 tons.
- 50,000 Manats per ton and consumption will be 6,000,000,000 tons.

- e) 8,000 Manats per ton and consumption will be 6,900,000,000 tons.
 - f) Free
- 13) Use functions in question 12 and find out how will prices change if government imposes consumption quota of 3,000,000,000 tons?
- a) Prices will rise up to 200,000 Manats per ton.
 - b) Prices will rise up to 100,000 Manats per ton.
 - c) Prices will slump to 50,000 Manats per ton.
 - d) Prices will slump to 70,000 Manats per ton.
 - e) People will simply stop consuming rice and will switch to ice-cream.
- 14) Use functions in question 12 and find out what kind of good is rice for local consumers?
- a) Normal good
 - b) Luxury good
 - c) Inferior good
 - d) Military good
 - e) Public good
 - f) Digital good
- 15) Use functions in question 12 and find out how will market react if government imposes price ceiling for rice as 50,000 Manats per ton?
- a) There will be shortage of 3,000,000,000 tons of rice in local markets
 - b) There will be shortage of 2,000,000,000 tons of rice in local markets
 - c) There will be surplus of 3,000,000,000 tons of rice in local markets
 - d) There will be surplus of 5,000,000,000 tons of rice in local markets
 - e) Market will be at efficient equilibrium.
- 16) Use functions in question 12 and find out how will market react if government imposes price floor for rice as 120,000 Manats per ton?
- a) There will be shortage of 4,000,000,000 tons of rice in local markets
 - b) There will be shortage of 2,000,000,000 tons of rice in local markets
 - c) There will be surplus of 4,000,000,000 tons of rice in local markets
 - d) There will be surplus of 5,000,000,000 tons of rice in local markets
 - e) Market will be at efficient equilibrium.
- 17) Use functions in question 12 and find out who will be hurt more, consumers or producers, if government decides to impose a consumption quota of 4,000,000,000 tons?
- a) Consumers
 - b) Producers
 - c) Government
 - d) Both consumers and producers will be hurt equally.

- e) Japan will be hurt more, because all rice is exported to Japan.
- 18) Use functions in question 12 and find out how will price and consumption change if rice producers invent new method of rice cultivation such that they can now produce 2,000,000,000 tons of rice more and at the same time, due to migration out of the population, demand for rice decreased by 2,000,000,000 tons?
- Price will drop to 40,000 Manats per ton and consumption will slump to 4,200,000,000 tons.
 - Price will drop to 60,000 Manats per ton and consumption will slump to 4,800,000,000 tons.
 - Price will rise to 100,000 Manats per ton and consumption will increase to 6,200,000,000 tons.
 - Price will rise to 140,000 Manats per ton and consumption will slump to 2,200,000,000 tons.
 - Market will be at efficient equilibrium.
- 19) In question 15 above, inefficiency of rice market could be solved...
- ...by importing 3,000,000,000 tons of rice.
 - ...by exporting 2,000,000,000 tons of rice.
 - ...by agitating society to consume less rice.
 - ...by blaming aliens.
 - ...by consuming more wheat.
- 20) Use functions in question 12, what will be market price and current consumption if producers can maximum produce 4,500,000,000 tons of rice only.
- Price per ton will be 125,000 Manats and consumption will be 4,500,000,000 tons
 - Price per ton will be, 80,000 Manats and consumption will be 4,500,000,000 tons
 - Price per ton will be 100,000 Manats and consumption will be 5,400,000,000 tons
 - Price per ton will be 125,000 Manats and consumption will be 5,400,000,000 tons
 - Since supply and demand functions did not change, everything will remain the same as before.
- 21) Below are shown demand functions. Which demand function belongs to inferior good? (Demand=quantity demanded, P=price of the good, I=income of consumers)
- Demand= $a-bP$
 - Demand= $a-bP-cI$
 - Demand= $a+bP-cI$
 - Demand= $a-bP+cI$
- 22) Assume that demand function for cars has three components, thus demand function for cars is no more one monolith function. Depending on a price and class of cars: premium class (luxury good), middle class (normal good) and low class (inferior good), demand

functions will change. Below are shown functions: (P=Price of car, Q=quantity of cars demanded; I, N and L is class of cars, I=inferior, N=normal, L=luxury)

When;

$(100,000 \leq P < 200,000)$ then $Q_I = 2,000,000 - 10P$

$(200,000 \leq P < 500,000)$ then $Q_N = 8,000,000 - 16P$

$(500,000 \leq P)$ then $Q_L = 1,000,000 - P$

How many 600,000 Manat valued cars will be purchased by a consumers?

- a) 400,000 cars
- b) 360,000 cars
- c) None
- d) 450,000 cars
- e) A lot!

Yhlas mugallyma soradylar:

- Mugallym, ýaşlaryň watana bolan söýgüsini güýçlendirmek üçin näme etmeli?

Yhlas mugallymyň jogaby:

- Ýaşlarvň aladasvny etmeli!

23) Use functions given in question 22; how many low class cars could be sold for price tag of 240,000?

- a) 0
- b) 20,000
- c) 1,000,000
- d) 50,000

24) Mayor of the city says in his speech that “Minimum consumption of the petrol per month is 1,000,000 barrels, and maximum is 2,000,000 barrels. 1,000,000 barrels is a must while next million depends on market price”. Which demand function of the petrol below suits the best description of demand function of petrol made by mayor of the city?

- a) Petrol consumption = $1,000,000 + (1,000,000 / \text{Price of petrol})$
- b) Petrol consumption = $1,000,000 - \text{Price of petrol}$
- c) Petrol consumption = $2,000,000 / \text{Petrol price}$
- d) Petrol consumption = $2,000,000 - 100 * \text{Petrol price}$
- e) Petrol consumption = 2,000,000

25) Assume that market for TV's has aggregate demand function of $Q_d = 8,000,000 - 100P$, and Total cost function is $TC = q^2 - 50,000q + 1,000,000,000$. What will be market price and

aggregate demand (aggregate demand AD) of TV's in case if TV market is in perfect competition structure?

- a) $P=13,245$ and $AD=6,675,500$
- b) $P=12,245$ and $AD=6,975,500$
- c) $P=11,245$ and $AD=7,275,500$
- d) $P=13,245$ and $AD=6,875,500$
- e) $P=15,245$ and $AD=4,675,500$

26) Use information given in question 25; find each producer's profit in perfect competition.

- a) 0
- b) 125,000,000
- c) 75,000
- d) 500,000
- e) -175,000

27) Use information given in question 25; and find out supply function for each company (S) and aggregate supply function (AS) at a market price of TV is 30,000 assuming that market is in perfect competition.

- a) $S=2q-50,000$ and $AS = 62.5P+3,125,000$
- b) $S=4q-50,000$ and $AS = 62.5P+3,125,000$
- c) $S=8q-100,000$ and $AS = 62.5P+3,125,000$
- d) $S=2q-50,000$ and $AS = 125P+3,125,000$
- e) $S=2q-50,000$ and $AS = 62.5P+5,125,000$

28) Use information in question 27; calculate consumer and producers surplus at price of 30,000 Manats.

- a) Consumer surplus=125,000,000,000 and Producers surplus=121,875,000,000
- b) Consumer surplus=115,000,000,000 and Producers surplus=111,875,000,000
- c) Consumer surplus=125,000,000,000 and Producers surplus=141,875,000,000
- d) Consumer surplus=135,000,000,000 and Producers surplus=151,875,000,000
- e) Consumer surplus=145,000,000,000 and Producers surplus=171,875,000,000

29) Use information in question 27; find each producer's profit when price is 30,000 Manats.

- a) 600,000,000
- b) 700,000,000
- c) 800,000,000
- d) 900,000,000
- e) 1,000,000,000

30) Use information in question 27; find how many producers will be producing TV's when price is 30,000 Manats.

- a) 125
 - b) 150
 - c) 225
 - d) 450
 - e) 550
- 31) Use information in question 27; find marginal cost of producing 30,000th TV for company when prices are 30,000 Manats.
- a) Approximately 10,000 Manats
 - b) Approximately 10,000 Manats
 - c) Approximately 10,000 Manats
 - d) Approximately 10,000 Manats
 - e) Approximately 10,000 Manats
- 32) Use information in question 25; what if TV market has monopoly structure. Find price and quantity of production of monopolist.
- a) $P = 79,356$ and Aggregate production = 64,356
 - b) $P = 54,356$ and Aggregate production = 156,440
 - c) $P = 44,356$ and Aggregate production = 176,440
 - d) $P = 64,356$ and Aggregate production = 97,356
 - e) $P = 74,356$ and Aggregate production = 125,456
- 33) Use information in question 25 and 32; Find approximate maximum profit of monopolist?
- a) 2,217,800,000
 - b) 2,417,800,000
 - c) 4,218,800,000
 - d) 6,216,500,000
 - e) 2,812,500,000
- 34) Use information in question 25 and 32; find consumers surplus in monopoly.
- a) 20,722,632
 - b) 25,922,632
 - c) 15,725,000
 - d) 40,622,650
 - e) 25,500,000
- 35) Use information in question 25 and 32; how much of TV's must monopolist produce to make a 1,000,000,000 Manats of loss?
- a) Approximately 128,713
 - b) Approximately 98,713

- c) Approximately 87,900
 - d) Approximately 156,670
 - e) Monopolist will always make profit!
- 36) Use information in question 25 and 32; find **break even** points of monopolist.
- a) $Q_1=8,217$ and $Q_2=120,496$
 - b) $Q_1=6,217$ and $Q_2=90,496$
 - c) $Q_1=5,217$ and $Q_2=120,496$
 - d) $Q_1=8,217$ and $Q_2=80,496$
 - e) $Q_1=7,217$ and $Q_2=130,496$
- 37) Use information in question 25 and 32; find marginal revenue of monopolist from selling 51,900th TV.
- a) 78,962 Manats
 - b) 68,962 Manats
 - c) 58,962 Manats
 - d) 48,962 Manats
 - e) 88,962 Manats
- 38) Use information in question 25; calculate price and quantity of production if monopolist is regulated, natural monopolist, and government imposes a “zero profit” policy for natural monopolist?
- a) $P= 78,795$ and Aggregate production= $120,496$
 - b) $P= 88,795$ and Aggregate production= $120,496$
 - c) $P= 98,795$ and Aggregate production= $130,496$
 - d) $P= 68,795$ and Aggregate production= $110,496$
 - e) $P= 58,795$ and Aggregate production= $150,496$
- 39) Use information in question 25 and 38; calculate consumer surplus when monopolist is regulated by government (natural monopoly) and produce at zero profit.
- a) 72,598,840
 - b) 62,598,840
 - c) 52,598,840
 - d) 42,598,840
 - e) 32,598,840
- 40) Use information in question 25; what would have been the price and quantity sold in monopolistic competition market?
- a) Price= $13,246$ and each producer will produce 31,466 TV's.
 - b) Price= $12,246$ and each producer will produce 33,466 TV's.
 - c) Price= $12,246$ and each producer will produce 35,466 TV's.

- d) Price=13,246 and each producer will produce 30,466 TV's.
 e) Price=10,246 and each producer will produce 39,466 TV's.
- 41) Use information in question 25; what would have been a price and quantity of TV's if TV market had oligopolistic structure?
- a) If oligopolies decide to compete with each other, prices will go down and market will look like a perfect competition. If instead of competing, they decide to cooperate (cartel) then market will look like in monopoly.
 b) Prices will go down and market will look like a perfect competition.
 c) They will create a cartel (unite) and act like monopolist
 d) They will act as a non-profit organization and give away free TV's
 e) I do not know, I should ask my mom about this
- 42) Assume that there are only two beer companies around and their cost functions are as follows: $TC_A = 0.1q^2 - 9,000q + 300,000,000$ and $TC_B = 0.5q^2 - 10,000q + 60,000,000$. If they compete instead of cooperation, who will win the competition?
- a) A
 b) B
 c) Both of them will win the market
 d) None, both will go bankrupt
 e) They will not compete.
- 43) Which one below cannot be used as total cost function (q =quantity)?
- a) $TC = 100q - 1,000,000$
 b) $TC = q + 1,000,000$
 c) $TC = q^2 - 2,000q + 2,000,000$
 d) $TC = 10q^2 - 1000q$
 e) $TC = 5q^2 + 1,000,000$
- 44) "Angry Ram" Transportation Company decided to purchase city buses for 300,000 Manat per bus. Each bus has exploitation time of 15 years. Daily operating cost which includes salary of drivers, gasoline price, maintenance cost, replacement parts, repairs, cleaning, etc. of a bus is 600 Manats. Buses going to be working 16 hours a day and it is expected that approximately 800 people will get on and off the bus per day. Calculate the break-even price of bus ticket?
- a) 0.82 Manats
 b) 0.92 Manats
 c) 1.22 Manats
 d) 1.5 Manats
 e) 0.5 Manats

- 45) “Flying Bull” Air Transportation Company decided to purchase passenger planes which cost 500,000,000 Manats each. Planes carry 250 passengers at each flight and it is planned that planes will make 2 flights per day. If plan’s monthly operating cost is 100,000 Manats (pilot’s wages, flight kerosene, stewardess, meal, maintenance, etc.) and exploitation years are about 25 years, what must the Company charge for tickets to make approximately 20% profit.
- Approximately 375 Manats
 - Approximately 275 Manats
 - Approximately 475 Manats
 - Approximately 575 Manats
 - Approximately 675 Manats
- 46) “Poisoned Cakes Company” bakes and sells three types of cakes: Vampire cake, Zombie cake and Demonic cake. Company has 12 employees with average wage of 3,000 Manats, rents equipment for 4,000 Manats per month also rents location for 5,000 Manats per month. Also, pays 10% of sales tax from each sold cake.

Below are given recipes:

Vampire cake recipe	Zombie cake recipe	Demonic cake recipe
500 grams of sugar	400 grams of sugar	300 grams of sugar
300 gram of cherries	3,000 grams of flour	200 gram of rice flour
3,000 grams of flour	200 grams of butter	2,000 grams of flour
200 grams of butter	300 grams of peanuts	300 grams of dark chocolate
1 Liters of milk	200 grams of nuts	20 grams of cinnamon
Baking powder	0.5 liters of milk	0.5 Liters of milk
20 grams of cinnamon	Baking powder	Baking powder

Below is given price (in Manats) list of inputs (weight and volume is in 1 kg or 1 Liters):

Sugar	30
Flour	35
Cherry	80
Butter	300
Milk	20
Baking powder (1 portion)	40
Cinnamon	3,000
Peanuts	1,000
Nuts	2,000
Dark Chocolate	3,000
Rice flour	50

Below is given sales prices (in Manats) of cakes:

Vampire cake	700
Zombie cake	1,400
Demonic cake	1,500

Calculate the variable cost function of the Vampire cake (q =quantity).

- a) $VC_{\text{vampire cake}} = 394q$
- b) $VC_{\text{vampire cake}} = 424q$
- c) $VC_{\text{vampire cake}} = 255q$
- d) $VC_{\text{vampire cake}} = 360q$
- e) $VC_{\text{vampire cake}} = 170q$

47) Which one below is the correct revenue function of Zombie cake?

- a) $1,400q$
- b) $1,900q$
- c) $1,700q$
- d) $500q$
- e) $1,650q$

48) Which one below is correct fixed cost of the company?

- a) 45,000
- b) 12,000
- c) 5,000
- d) 36,000
- e) 9,000

49) Write down profit function of “Poisoned Cakes Company”

- a) $\Pi = 333q_{\text{zombie}} + 306q_{\text{vampire}} + 251q_{\text{demonic}} - 45,000$
- b) $\Pi = 890q - 45,000$
- c) $\Pi = 1,400q_{\text{zombie}} + 700q_{\text{vampire}} + 1,500q_{\text{demonic}} - 45,000$
- d) $\Pi = 400q_{\text{zombie}} + 800q_{\text{vampire}} + 1,000q_{\text{demonic}} - 25,000$
- e) $\Pi = 1,400q_{\text{zombie}} + 700q_{\text{vampire}} + 1,500q_{\text{demonic}} - 35,000$

50) Find out how much revenue and profit will the company earn from selling 88 Demonic cakes (do not include fixed cost).

- a) Revenue=132,000 Manats and profit= 22,088 Manats
- b) Revenue=102,000 Manats and profit= 42,088 Manats
- c) Revenue=122,000 Manats and profit= 32,088 Manats
- d) Revenue=132,000 Manats and profit= 28,088 Manats
- e) Revenue=142,000 Manats and profit= 52,088 Manats

- 51) How much total tax do the company is obliged to pay if it sells 500 Zombie cakes, 400 Vampire cakes and 1,000 Demonic cakes?
- a) 248,000 Manats
 - b) 268,000 Manats
 - c) 224,500 Manats
 - d) 130,000 Manats
 - e) 380,000 Manats
- 52) Sales of which cake bring the company highest profit margin?
- a) Zombie cake
 - b) Demonic cake
 - c) Vampire cake
 - d) None of the cakes
 - e) Angel cake
- 53) Last month the company made around 1,000,000 Manats of profit. The most popular cake sold last month was Zombie cake. Vampire cakes were sold twice lesser than Zombie cakes. Demonic cakes were sold twice lesser than Vampire cakes. How many cakes from each type were sold last month?
- a) Demonic cakes=476, Vampire cakes=952, Demonic cakes=1,904
 - b) Demonic cakes=476, Vampire cakes=952, Demonic cakes=1,904
 - c) Demonic cakes=476, Vampire cakes=952, Demonic cakes=1,904
 - d) Demonic cakes=476, Vampire cakes=952, Demonic cakes=1,904
 - e) Demonic cakes=476, Vampire cakes=952, Demonic cakes=1,904
- 54) How will total cost function of “Poisoned Cakes Company” will look if sales taxes were increased to 14%?
- a) $TC = 1,123q_{\text{zombie}} + 422q_{\text{vampire}} + 1,309q_{\text{demonic}} + 45,000$
 - b) $TC = 1,133q_{\text{zombie}} + 222q_{\text{vampire}} + 1,109q_{\text{demonic}} + 45,000$
 - c) $TC = 1,003q_{\text{zombie}} + 522q_{\text{vampire}} + 1,209q_{\text{demonic}} + 35,000$
 - d) $TC = 923q_{\text{zombie}} + 722q_{\text{vampire}} + 1,209q_{\text{demonic}} + 25,000$
 - e) $TC = 1,400q_{\text{zombie}} + 700q_{\text{vampire}} + 1,500q_{\text{demonic}} + 45,000$
- 55) What is the marginal revenue from selling 1,200th Demonic cake?
- a) 1,500 Manats
 - b) 1,250 Manats
 - c) 1,000 Manats
 - d) Very small
 - e) 3,000 Manats
- 56) What is the marginal cost of baking 900th Zombie cake (assume sales tax is 10%)?

- a) 1,067 Manats
- b) 2,067 Manats
- c) 927 Manats
- d) 700 Manats
- e) 1,400 Manats

57) What is the marginal profit from selling 200th Vampire cake (assume sales tax is 10%)?

- a) 306 Manats
- b) 206 Manats
- c) 406 Manats
- d) 700 Manats
- e) 250 Manats

Kärdeşleriniň biri degişgen äheňde Yhlas mugallyma sorady:

- Mugallym, sapagymyň dowamynda talyplar elini galdyryp hajathana rugsat soraýarlar-a, anha, menem şeýdip sapagymyň dowamynda ‘talyplar, men hajathana baryp gaýtjak’ diýip gaýtsam nähili bolarka?

Yhlas mugallymyň jogaby:

- Erbet bolar! “Ymam osursa, jemagat syçar” !

58) Find Average Total Cost (ATC) per cake of the company if 500 of cakes from each type was baked and sold last month (assume sales tax is 10%).

- a) 933 Manats
- b) 833 Manats
- c) 733 Manats
- d) 1,033 manats
- e) 533 Manats

59) Find Average Revenue (AR) per cake of the company if 500 of cakes from each type was baked and sold last month (assume sales tax is 10%).

- a) 1,200 Manats
- b) 1,100 Manats
- c) 1,000 Manats
- d) 900 Manats
- e) 800 Manats

60) Find Average Profit (AP) per cake of the company if 500 of cakes from each type was baked and sold last month (assume sales tax is 10%).

- a) 267 Manats
- b) 257 Manats
- c) 247 Manats
- d) 167 Manats
- e) 97 Manats

61) “Gold Digger” mining company, is only mining company in closed economy, has purchased a new gold mine with estimated gold reserves of 900,000 tons. It has 3,000 employees which are paid on average 8,000 Manats per month. Transportation cost of 1 gram of gold is around 100 Manats, electricity cost is 200 Manats, tax paid from each gram sold is 50 Manats, mining cost is 200 Manats, washing cost is 80 Manats, chemical cleaning and melting cost is 100 Manats. Annual demand function (in grams) of gold is $Q=50,000-P$ (P =price per gram of gold in Manats). How total cost function of the “Gold Digger” mining company looks like?

- a) $TC=730Q+24,000,000$
- b) $TC=730Q+24,000,000$
- c) $TC=730Q+24,000,000$
- d) $TC=730Q+24,000,000$
- e) $TC=730Q+24,000,000$

62) How revenue function of the company looks like?

- a) $TR=50,000Q-Q^2$
- b) $TR=250,000Q-0.125Q^2$
- c) $TR=50,000Q-0.125Q^2$
- d) $TR=60,000Q-0.25Q^2$
- e) $TR=600,000Q-5Q^2$

63) How much of gold “Gold Digger” mining company must sell and at what a price to earn maximum profit?

- a) $Q=24,635$ grams and $P=25,365$ Manats
- b) $Q=24,635$ grams and $P=25,365$ Manats
- c) $Q=24,635$ grams and $P=25,365$ Manats
- d) $Q=24,635$ grams and $P=25,365$ Manats
- e) $Q=24,635$ grams and $P=25,365$ Manats

64) What is maximum annual profit of the company?

- a) 582,883,225 Manats
- b) 482,883,225 Manats
- c) 382,883,225 Manats
- d) 282,883,225 Manats
- e) 782,883,225 Manats

- 65) How many grams of gold company must produce to break even?
- $Q_1=23,619$ and $Q_2=1,016$ grams
 - $Q_1=23,619$ and $Q_2=2,016$ grams
 - $Q_1=22,619$ and $Q_2=2,016$ grams
 - $Q_1=21,619$ and $Q_2=1,016$ grams
 - $Q_1=22,619$ and $Q_2=3,016$ grams
- 66) You here on TV how CEO of one of the top manufacturing companies say “The more we produce, cheaper it gets for us”. Choose below which average total cost (ATC) function below “allegedly” satisfies CEO’s description?
- $ATC = 1,300 + \frac{90,000,000}{Q}$
 - $ATC = 3,000 + \frac{Q}{2,000,000}$
 - $ATC = 1,300 + Q^3$
 - $ATC = \frac{90,000,000}{Q} + Q$
 - $ATC = Q^2 - 3,000,000$
- 67) Minimum average cost is attained when 10,000 units are produced and it equals to 10,000 Manats. If you were told that fixed cost of the manufacturing business is 100,000,000 Manats, construct full total cost function.
- $TC=Q^2 - 10,000Q + 100,000,000$
 - $TC=2Q^2 - 50,000Q + 100,000,000$
 - $TC=Q^2 - 5,000Q + 100,000,000$
 - $TC=2Q^2 - 10,000Q + 100,000,000$
 - $TC=10Q^2 - 10,000Q + 1000,000,000$
- 68) Marginal revenue function of the monopolist is $MR=20,000-0.04Q$ and maximum profit is earned currently by producing 200,000 units of goods. Find monopolist’s variable cost (VC) and current price (P) if linearity of cost function is known.
- $P=16,000$ Manats and $VC=12,000$ Manats
 - $P=12,000$ Manats and $VC=16,000$ Manats
 - $P=14,000$ Manats and $VC=12,000$ Manats
 - $P=16,000$ Manats and $VC=16,000$ Manats
 - $P=18,000$ Manats and $VC=10,000$ Manats
- 69) Below is given table of demand and supply changes when different prices are applied. Find suitable demand and supply functions.

Price	Demand	Supply
500	950,000	500,000

800	920,000	740,000
1,200	880,000	1,060,000

- a) Demand=1,000,000-100P and Supply=800P+100,000
- b) Demand=1,000,000-200P and Supply=800P+100,000
- c) Demand=2,000,000-100P and Supply=1,000P+100,000
- d) Demand=1,000,000-100P and Supply=1,000P - 100,000
- e) Demand=2,000,000-100P and Supply=800P-1,000,000

70) Economist collected data for calculating annual gasoline demand per household (in liters) and used annual income per household (I in Manats), price of gasoline per liter (P in Manats) and price of car (P_c in Manats) as independent variables. Demand function and its estimators were found using econometric tools and are given below:

$$Q = 110 - 7.5P + 0.0025I - 0.003P_c$$

When economist made deeper analysis of collected data, he found out that most of the households (around 97% of the households) earned around 100,000 Manats annually. Furthermore, car prices in collected data were also around 50,000 Manats (around 98% of car prices). Economist wants to simplify his demand function. Which one below will be approximately correct simplification of the demand function?

- a) $Q = 210 - 7.5P$
- b) $Q = 110 - 7.5P$
- c) $Q = 310 - 10.5P$
- d) $Q = 510 - 15P$
- e) $Q = 210 - 5P$

Talypalaryň biri 'köpbilmişsiräp' Yhlas mugallyma sorady:

- Mugallym, siz nähili sowgatlary halaýaňyz?

Yhlas mugallymyň jogaby:

- 'Okumyş talyp' ýaly sowgatlary!

PART4: Trade

- 1) Country A and Country B both are producing cotton and tobacco, but they have different resource endowment: Country A has 50,000 labor hours (L) of resources and Country B has 90,000 labor hours (L) of resources. Assume that labor hours are only needed resources for producing both cotton and tobacco. In Country A in order to produce 1 ton of tobacco (T) only 2 labor hours are needed while to produce 1 ton of cotton (C) 10 labor hours are spent. In Country B, to produce 1 ton of tobacco 9 labor hours are needed and to produce 1 ton of cotton same 3 hours are spent. Which one below shows correct production possibility functions of countries?
 - a) $T_A=25,000-5C_A$ and $C_B=30,000-3T_B$
 - b) $T_A=25,000-5C_A$ and $T_B=15,000-5C_B$
 - c) $T_A=15,000-C_A$ and $T_B=25,000-10C_B$
 - d) $T_A=25,000-C_A$ and $T_B=15,000-5C_B$
- 2) In Question 1, which country has comparative advantage in producing cotton?
 - a) Country A
 - b) Country B
 - c) Both countries
 - d) None of the countries
 - e) Country Z
 - f) Tobacco is bad for health!
- 3) In Question 1, if both countries open up for trade, who will trade what?
 - a) Country A will export tobacco to Country B and import cotton from Country B because Country A has comparative advantage in producing tobacco and Country B has comparative advantage in producing cotton.
 - b) Country A will export tobacco to Country B because Country A has comparative advantage in producing tobacco
 - c) Country B will export both tobacco and cotton to Country A because it has absolute advantage in producing both goods.
 - d) Countries will not trade because price is not known.
- 4) In Question 1, What are prices of cotton and tobacco in each country (assume wages in both sectors are equal)
 - a) Country A: $P_C=5P_T$ and in Country B: $P_T=3P_C$
 - b) Country A: $P_C=5P_T$ and in Country B: $3P_T=P_C$
 - c) Country A: $5P_C=P_T$ and in Country B: $P_T=3P_C$
 - d) Country A: $5P_C=P_T$ and in Country B: $3P_T=1P_C$

- e) Country A: Cotton is free and smoking is prohibited while in Country B cigarettes are free and everybody wears a silk.
- 5) In Question 1, Assume that global price of cotton is 2,000 Manats per ton and price of tobacco is also 2,000 Manats per ton. What will both countries produce and export?
- Country A will only produce tobacco for export and import needed cotton while Country B will only produce cotton for export and import needed tobacco.
 - Country A will only produce cotton and Country B will only produce tobacco.
 - Country A will produce 20,000 tons of tobacco and 5,000 tons of cotton and Country B will only produce cotton.
 - Country A will only produce tobacco and Country B will produce 10,000 tons of cotton and 5,000 tons of tobacco.
 - Both countries will only produce cotton because both countries know that “smoking kills”.
 - Country A will invade Country B.
- 6) In Question 1, Assume that global price of cotton is 3,000 Manats per ton and price of tobacco is 10,000 Manats per ton. What will both countries produce and export?
- Both countries will only produce tobacco for export and import needed cotton.
 - Both countries will only produce cotton for export and import needed tobacco.
 - Country A will produce 25,000 tons of tobacco and 2,000 tons of cotton and Country B will only produce cotton.
 - Country A will only produce tobacco and Country B will produce 10,000 tons of cotton and 10,000 tons of tobacco.
 - Both countries will only produce cotton.
 - They will both produce nothing and import everything.
- 7) In Question 1, What if in Country A wages in tobacco sector doubles and becomes twice higher than in cotton sector, how this will impact the local prices of tobacco and cotton?
- Price per ton of tobacco will also double than initial price in Country A.
 - Price per ton of tobacco will decrease by twice than initial price in Country A.
 - Price per ton of cotton will increase by 50% in Country A.
 - Price per ton of tobacco will triple in Country B.
 - Smoking will increase in Country A because they not only produce more tobacco now but also earn more money too.
- 8) In Question 1, Assume that wages in Country A is three times higher than wages in Country B. Which good will be produced in Country A and which good will be imported by Country A?
- Country A will produce tobacco locally and import cotton from B.
 - Country A will produce both tobacco and cotton locally.
 - Country A will import both goods.

- d) Country A will produce cotton and import tobacco from B.
- 9) In Question 1, Assume wages in Country B is four times higher than wages in Country A. Which good will be produced in Country B and which good will be imported by Country B?
- a) Both goods will be imported from Country A.
b) Both goods will be exported to Country A.
c) Country B will export cotton and import tobacco from Country A.
- 10) In a table below, goods and labor hours spent to produce those good in each country is given;

Country	petrol	rice	wheat	cars	silk	meat	computers	pills	balls
A	8	10	4	20	5	5	15	17	3
B	3	5	5	10	7	9	9	10	2
C	3	7	6	22	9	8	20	9	5
D	10	3	7	25	2	2	2	8	8
E	13	2	2	23	4	2	10	5	2
F	15	2	3	16	9	3	17	4	2
G	2	8	5	15	10	5	18	2	4

An hourly wage ratio in each country is also given as:

$$W_A=2W_B=3W_C=0.5W_D=1.5W_E=0.3W_F=0.8W_G$$

Use table above and wage ratios and find out which country has comparative advantage in producing which good.

- a) Country B cars and balls; Country C petrol; Country D computers; Country E rice, wheat, silk, meat; Country G pills.
- b) Country B cars and balls; G petrol; Country D silk, meat; Country E rice, wheat, silk, meat.
- c) Country A balls; Country B balls; Country C petrol; Country D computers; Country E rice, wheat, silk, meat; Country G pills.
- 11) Below is given table of goods and labor hours needed to produce those goods in each country. Goods in which a country has comparative advantage is shown in parenthesis. Find hourly wages in each country.

	Robots	Onions	Petrol
Country A	(20)	10	10
Country B	14	(4)	10
Country C	12	4	(4)

- a) $W_A=0.5W_B=0.42W_C$
b) $W_A=0.6W_B=2W_C$
c) $W_A=0.5W_B=0.6W_C$

d) $W_A = 2W_B = 0.8W_C$

- 12) Below is given a table of quantities of goods that each economy potentially can produce. Find out approximately which good(s) will each country export according to Heckscher-Ohlin trade model.

	petrol	chemicals	potatoes	robots	tanks	pills	wheat	wood
A	9,000	9,000	13,000	5,000	5,000	1,000	10,000	2,000
B	3,000	2,000	3,500	22,000	4,000	2,000	5,000	500
C	30,000	1,000	2,000	1,000	1,000	2,000	2,000	44,000
D	2,000	3,000	4,000	500	14,000	3,000	3,000	5,000
E	4,000	27,000	300	400	80	2,000	3,000	5,000
F	3,000	2,000	3,000	5,000	3,400	25,000	6,000	1,000
G	1,000	1,000	1,000	1,000	1,000	1,000	30,000	1,000

- a) A (potatoes), B(robots), C(petrol, wood), D(tanks), E(chemicals), F(pills), G(wheat).
b) A (potatoes), B(robots, chemicals), D(tanks), E(chemicals), F(pills), G(wheat).
c) A (potatoes), C(robots, petrol, wood), (petrol, wood), D(tanks), E(chemicals), G(wheat).
d) A (potatoes), B(robots), D(tanks, wood), E(chemicals, petrol), F(pills).
- 13) Below is given table of countries with demand and supply functions of petrol in barrels and Manats. Use this table for answering questions. What will be local prices and local production (approximate) in each country?

Country	Demand	Supply
A	100,000,000-5,000P	50,000P-50,000,000
B	1,000,000-P	1,000P
C	50,000,000	0
D	500,000,000-100,000P	100,000,000

a)

Country	Local Prices	Local production
A	2,727	86,363,636
B	999	999,000
C	N/A	0
D	4,000	100,000,000

b)

Country	Local Prices	Local production
A	3,727	96,363,636
B	800	1,100,000
C	N/A	0
D	4,000	100,000,000

c)

Country	Local Prices	Local production
A	3,727	96,363,636
B	800	1,100,000
C	N/A	0

D	4,000	100,000,000
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- 14) Use table given in question 13; what will be prices and total production (approximate) when Country A and B open up for trade?

a)

Global price	Global production	Exporter	Importer	Exported amount
2,696	87,515,021	B	A	1,700,000

b)

Global price	Global production	Exporter	Importer	Exported amount
3,700	77,500,000	B	A	2,700,000

c)

Global price	Global production	Exporter	Importer	Exported amount
2,696	57,515,021	A	B	700,000

- 15) Use table given in question 13; what will be prices and total production (approximate) when Country A, B and C open up for trade?

a)

Global price	Global production	Exporter	Importer	Exported amount
3,589	133,050,081	A,B	C	50,000,000

b)

Global price	Global production	Exporter	Importer	Exported amount
2,589	153,050,081	A,B	C	150,000,000

c)

Global price	Global production	Exporter	Importer	Exported amount
3,589	113,050,081	A,B	C	50,000,000

- 16) Use table given in question 13; what will be prices and total production (approximate) when Country A, B, C and D open up for trade?

a)

Global price	Global production	Exporter	Importer	Exported amount
3,852	133,050,081	A,B	C,D	50,000,000

b)

Global price	Global production	Exporter	Importer	Exported amount
4,852	93,050,081	A,B,C	D	150,000,000

c)

Global price	Global production	Exporter	Importer	Exported amount
3,652	133,050,081	A,B	C,D	50,000,000

- 17) Use table given in question 13; assume that Country B and C opened up for petrol trade (only two of them trade). Later on, government of Country C decided to impose import tariff of 2,000 Manats per imported barrel. How this policy will impact production and consumption of petrol in each country?

a)

Global price before import tariff	50,949
Global production before import tariff	50,949,000
Local price in Country B after tariff implementation in Country C	50,949
Local price in Country C after tariff implementation in Country C	52,949
Global price after import tariff	No global (one price) price. Markets are divided by tariff.
Global production after import tariff	50,949,000
Exporter before tariff	B
Importer before tariff	C
Exporter after tariff	B
Importer after tariff	C

b)

Global price before import tariff	50,949
Global production before import tariff	50,949,000
Local price in Country B after tariff implementation in Country C	52,949
Local price in Country C after tariff implementation in Country C	52,949
Global price after import tariff	52,949
Global production after import tariff	52,949,000
Exporter before tariff	B
Importer before tariff	C
Exporter after tariff	B
Importer after tariff	C

18) In above question, what is Country C's (budget) earning from imposing tariff on imported petrol?

a) 100 BLN Manats

- b) 50 BLN Manats
- c) 200 BLN Manats
- d) 20 BLN Manats

19) Use table given in question 13; assume that Country A and D open up for trade (only two of them trade). Later on, suppliers of Country A had invented new technology and this increased productivity of suppliers of Country A by 50,000,000 barrels. What will be total price and quantity produced before the invention and after the invention?

a)

Price before invention	Price after the invention	Output before invention	Output after invention
3,548	3,225	227,400,000	261,290,322

b)

Price before invention	Price after the invention	Output before invention	Output after invention
3,548	3,425	227,400,000	251,290,322

c)

Price before invention	Price after the invention	Output before invention	Output after invention
3,348	3,225	247,400,000	261,290,322

20) Use table given in question 13; assume that Country A and D open up for trade (only two of them trade). Later on, due to good economic growth, consumption of petrol increase by 50,000,000 barrels in Country A. How this positive demand shock in one country will impact global prices and total consumption?

a)

Price before shock	Price after shock	Output before shock	Output after shock
3,548	3,871	227,400,000	243,548,387

b)

Price before shock	Price after shock	Output before shock	Output after shock
3,548	3,271	227,400,000	273,548,387

c)

Price before shock	Price after shock	Output before shock	Output after shock
3,348	3,871	257,400,000	223,548,387

21) What will happen to global petrol prices if OPEC decides to increase supply of oil?

- a) Price of petrol will fall
- b) Price of petrol will rise
- c) Price will not change

22) Assume that there are 6 countries where diamond is mined (supplied) and their market share (in percentage) of supply is given as;

A	B	C	D	E	F
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44%	25%	11%	9%	9%	2%
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Assume that total carat (diamonds are calculated in carats) of diamonds annually supplied to market is 10,000. Now, assume that global demand function for diamonds is equals to $Q=20,000-2*P$. Here Q=carats of diamonds, P=price per carat in Manats. What is price per carat of diamond in international markets now?

- a) 5,000 Manats
- b) 4,000 Manats
- c) 3,000 Manats
- d) 2,000 Manats
- e) 1,000 Manats

Yhlas mugallyma soradylar:

- Mugallym, siz näme üçin pelsepe sapagyny okuw meýilnamasyndan aýyrmagyň tarapdary?

Yhlas mugallymyň jogaby:

Ýaşlaryň öňdenem bulaşyk aňlaryny pelsepejileriň ‘öňi-arkasy bolmaýan’ pelsepesi bilen bulaşdyrmak ýerine, olara durmuşynda gerekli bolan ylmy bermeli. Durmuşyň özi olara pelsepe sapagyny geçär hökman!

23) Use information given in question 22; assume now that country F decides to increase supply of diamonds up to 20%. What will be price per carat of diamond now?

- a) 4,980 Manats
- b) 3,980 Manats
- c) 2,980 Manats
- d) 1,980 Manats
- e) 980 Manats

24) Use information given in question 22; assume now that multiple changes occurred in market: country A increased supply by 10%, country B decreased supply by 10%, country C decreased supply by 20%, country D decreased supply by 10%, country E decreased supply by 40%, country F's supply remained the same. How these changes will impact price per carat of diamond, what will be new price per carat of diamond?

- a) 5,240 Manats
- b) 5,500 Manats
- c) 6,340 Manats
- d) 5,890 Manats
- e) Nothing will change!

25) Use information given in question 22; assume now that country B, C, D, E, and F unite and create Diamond Cartel and they planned to bring price per carat of diamond around

4,000 Manats. If we assume that country A will not change its supplied amount of diamonds, how much Diamond Cartel must supply of diamonds to achieve the target of 4,000 Manats per carat price?

- a) 7,600 carats
- b) 6,600 carats
- c) 5,600 carats
- d) 4,600 carats
- e) 3,600 carats

26) Use information given in question 22; in question 25, Diamond Cartel wants to bring prices to 4,000 Manats per carat, how can country A's suppliers destroy the plans of the cartel? How much diamond country A's suppliers must supply in order to keep prices at 5,000 Manats per carat?

- a) Country A's suppliers must decrease supply to 2,400 carats
- b) Country A's suppliers must decrease supply to 3,400 carats
- c) Country A's suppliers must increase supply to 5,400 carats
- d) Country A's suppliers must increase supply to 7,400 carats
- e) Country A's suppliers must sue the cartel!

27) Use information given in question 22; assume now that new country G which has potential of mining 1,000 carats enters the diamond market. How is now market share of the diamond market will look like (in percentages) when all 7 suppliers in the market?

a)

A	B	C	D	E	F	G
40%	22.8%	10%	8.2%	8.2%	1.8%	9%

b)

A	B	C	D	E	F	G
42%	23%	10%	8%	8%	1%	8%

c)

A	B	C	D	E	F	G
45%	27%	14%	6%	6%	2%	2%

28) Use information given in questions 22 and 27; how entrance of country G will impact prices, what will be new price per carat of diamond (the Cartel and country A's supply assumed to remain the same, ceteris paribus)?

- a) 4,500 Manats
- b) 5,500 Manats
- c) 6,500 Manats
- d) 7,500 Manats
- e) 3,500 Manats

29) Use information given in questions 22, 25, 27 and 28; Assume now that country A's and country G's suppliers decide to unite and form Brilliant Cartel. Now, show diamond market share of two cartels.

a)

Diamond Cartel	Brilliant Cartel
51%	49%

b)

Diamond Cartel	Brilliant Cartel
50%	50%

c)

Diamond Cartel	Brilliant Cartel
49%	51%

30) Use information given in questions 22, 25, 27, 28 and 29; due to global economic growth and development annual demand for diamond and diamond products increased by 3,000 carats. How new annual demand function for diamonds will look like?

- a) $Q=23,000-2P$
- b) $Q=20,000-2P$
- c) $Q=13,000-2P$
- d) $Q=23,000-4P$
- e) $Q=27,000-4P$

Yhlas mugallyma soradylar:

- Mugallym, siz näme üçin ykdysadyýet we maliýe sapagyny mekdepleriň okuw meýilnamasyna goşmagyň tarapdary?

Yhlas mugallymyň jogaby:

- Ýaşlara mekdepde otuň we mör-möjekleriň gurluşyny öwredýäris, planetalaryň uzaklygyny we ýer çekiminiň ölçeglerini öwredýäris, üçünji derejeli funksiýalary çözmegi öwredýäris, hat-da daşary ýurt dilleriniň birnäçesini öwredýäris emma ykdysadyýetiň, puluň işleýişini, söwdany öwredemizok. Bu dogrumy?

31) Use information given in questions 30; how this demand shock will change price per carat of diamond if we assume that quantity supplied by both cartels do not change (ceteris paribus)?

- a) 6,000 Manats
- b) 7,000 Manats
- c) 8,000 Manats

- d) 9,000 Manats
- e) 10,000 Manats

32) Use information given in questions 22, 25, 27, 28, 30 and 31; assume that one of the country D's diamond mines are depleted and total supply quantity of diamonds of that country decreased by half. At the same time, country G's suppliers have found new diamond reserves which can potentially increase diamond supply of country G by 3 times. How diamond market share between cartels will change after this?

a)

Diamond Cartel	Brilliant Cartel
41%	59%

b)

Diamond Cartel	Brilliant Cartel
31%	69%

c)

Diamond Cartel	Brilliant Cartel
50%	50%

33) Use information given in questions 32; assume now that diamond market has new player in the face of "artificial diamonds". Demand function for real and artificial diamonds are given below;

$$Q_{\text{real}} = 18,000 - 5P_{\text{real}} + 10P_{\text{artificial}}$$

$$Q_{\text{artificial}} = 100,000 - 100P_{\text{artificial}} + 10P_{\text{real}}$$

If we know that Diamond Cartel can annually supply 5,150 carats and Brilliant cartel can annually supply 7,400 carats of diamonds, and artificial diamond suppliers plan to supply at first year the total carats equal to total carats of real diamonds supplied to market, then what will be prices of both type of diamonds and total carats supplied to market?

- a) $P_{\text{real}} = 3,549$ and $P_{\text{artificial}} = 1,229$ Manats per carat. $Q_{\text{real}} = Q_{\text{artificial}} = 12,550$ carats
- b) $P_{\text{real}} = 3,349$ and $P_{\text{artificial}} = 1,329$ Manats per carat. $Q_{\text{real}} = Q_{\text{artificial}} = 13,550$ carats
- c) $P_{\text{real}} = 3,749$ and $P_{\text{artificial}} = 1,129$ Manats per carat. $Q_{\text{real}} = Q_{\text{artificial}} = 14,550$ carats
- d) $P_{\text{real}} = 4,549$ and $P_{\text{artificial}} = 2,229$ Manats per carat. $Q_{\text{real}} = Q_{\text{artificial}} = 15,550$ carats
- e) $P_{\text{real}} = 2,549$ and $P_{\text{artificial}} = 2,229$ Manats per carat. $Q_{\text{real}} = Q_{\text{artificial}} = 11,550$ carats

34) Use information given in questions 33; next year artificial diamond suppliers plan to supply twice as much carat to market compared to real diamond suppliers. If we assume that cartels do not change amount of carat they supply and demand for both types of diamonds also remain the same (ceteris paribus principle) what is expected price of both types of diamonds next year?

- a) $P_{\text{real}}=3,235$ and $P_{\text{artificial}}=1,073$ Manats. $Q_{\text{real}}=12,550$ and $Q_{\text{artificial}}=25,100$ carats
b) $P_{\text{real}}=3,335$ and $P_{\text{artificial}}=1,173$ Manats. $Q_{\text{real}}=12,550$ and $Q_{\text{artificial}}=25,100$ carats
c) $P_{\text{real}}=2,235$ and $P_{\text{artificial}}=2,073$ Manats. $Q_{\text{real}}=12,550$ and $Q_{\text{artificial}}=50,200$ carats
d) $P_{\text{real}}=3,535$ and $P_{\text{artificial}}=1,373$ Manats. $Q_{\text{real}}=11,550$ and $Q_{\text{artificial}}=25,100$ carats
e) $P_{\text{real}}=3,235$ and $P_{\text{artificial}}=1,073$ Manats. $Q_{\text{real}}=15,550$ and $Q_{\text{artificial}}=15,100$ carats

35) Use information given in questions 34; find total revenue earned by each real diamond supplier cartel and artificial diamond suppliers.

a)

Diamond Cartel	Brilliant Cartel	Artificial diamond suppliers
16,660,250	23,939,000	26,932,300

b)

Diamond Cartel	Brilliant Cartel	Artificial diamond suppliers
18,660,250	29,939,000	26,932,300

c)

Diamond Cartel	Brilliant Cartel	Artificial diamond suppliers
16,660,250	33,939,000	22,932,300

36) Country A and B are planning to liberalize car trade in between two economies (no tariffs, no restrictions in investment and no subsidies for car manufacturers). Assume that both manufacturers are monopolists in their markets. Below are given demand function of cars and total cost functions of both monopolists. Find local prices and total cars produced in each country before opening up for trade.

Demand A	Demand B	Total cost of A	Total cost of B
$5,000,000-100P$	$8,000,000-200P$	$q^2-1,000q+100,000,000$	$q^2-5,000q+100,000,000$

a)

Domestic price in A	Domestic price in B	Cars produced in A	Cars produced in B
49,747	39,888	25,247	22,388

b)

Domestic price in A	Domestic price in B	Cars produced in A	Cars produced in B
47,747	36,888	23,247	22,388

c)

Domestic price in A	Domestic price in B	Cars produced in A	Cars produced in B
49,747	36,888	22,247	25,388

37) Use information in question 36; what will happen to car manufacturing sector after they open up for trade?

- a) Manufacturer of B will take over all the market because manufacturer of B has such a production technology so that its ATC is lower than manufacturer of A. Company with higher efficiency in production will win the competition in a long run!
- b) Manufacturer of A will take over all the market because manufacturer of A has such a production technology so that its ATC is lower than manufacturer of B. Company with higher efficiency in production will win the competition in a long run!
- c) Manufacturer of B will take over all the market because manufacturer of B sells its car cheaper than manufacturer A. Cheap products will always win the competition in market!

38) Use information in question 36 and 37; what will be price and total cars produced after both countries open up for car trade?

- a) Price=43,253 Manats per car and Q=24,087 cars.
- b) Price=44,253 Manats per car and Q=25,087 cars.
- c) Price=45,253 Manats per car and Q=26,087 cars.
- d) Price=45,253 Manats per car and Q=22,087 cars.
- e) Price=43,253 Manats per car and Q=34,087 cars.

39) Countries with annual consumption and production (in m³) of natural gas is given below;

Countries	Demand functions	Supply functions	Maximum production capacity
A	1,000,000,000-10,000P	40,000P	1,000,000,000
B	2,000,000,000-10,000P	60,000P-100,000,000	1,000,000,000
C	3,000,000,000-50,000P	100,000P	1,000,000,000
D	1,000,000,000-10,000P	90,000P	5,000,000,000
E	2,000,000,000-50,000P	50,000P-200,000,000	5,000,000,000

Which country(s) is (are) import dependent?

- a) B and C
- b) B only
- c) A and B
- d) C only
- e) D and E

40) Use information in question 39; what is domestic price and domestic production quantity in each country (no trade)?

a)

Countries	Domestic price	Domestic production
A	20,000	800,000,000
B	100,000	1,000,000,000
C	40,000	1,000,000,000
D	10,000	900,000,000
E	22,000	900,000,000

b)

Countries	Domestic price	Domestic production
A	20,000	800,000,000
B	30,000	1,700,000,000
C	20,000	2,000,000,000
D	10,000	900,000,000
E	22,000	900,000,000

c)

Countries	Domestic price	Domestic production
A	20,000	1,000,000,000
B	100,000	1,000,000,000
C	40,000	1,000,000,000
D	10,000	5,000,000,000
E	22,000	5,000,000,000

41) Use information in question 39; assume country B and D open up for trade, what will be price in two countries and who will be exporter and importer and calculate imported amount.

a)

Price	Total output	Importer	Imported amount
18,235	2,635,250,000	B	823,550,000

b)

Price	Total output	Importer	Imported amount
18,235	2,235,250,000	B	1,823,550,000

c)

Price	Total output	Importer	Imported amount
15,235	2,635,250,000	D	823,550,000

42) Use information in question 41; how much country D's suppliers are earning from exporting to country B?

- a) 15,017,434,250,000
- b) 15,250,800,000,000
- c) 13,585,650,000,000
- d) 17,540,750,250,000
- e) 16,800,850,000,000

43) Use information in question 41; assume now that country B imposes import tariff of 1,000 Manats per m³ gas imported. How this fiscal policy of B will impact trade: prices, import quantity, budget earnings, and losses?

a)

Price in D	Price in B	Domestic production in B	Imported amount by B	Budget earnings of B from tariff	Loss of revenue of suppliers of D from domestic markets, due to tariff of B	Loss of revenue of suppliers of D from foreign markets, due to tariff of B,
18,076.5	19,235	1,000,000,000	807,650,000	807,650,000,000	100,946,272,500	417,949,025,000

b)

Price in D	Price in B	Domestic production in B	Imported amount by B	Budget earnings of B from tariff	Loss of revenue of suppliers of D from domestic markets, due to tariff of B	Loss of revenue of suppliers of D from foreign markets, due to tariff of B,
18,235	19,235	1,000,000,000	817,650,000	817,650,000,000	90,946,272,500	317,949,025,000

c)

Price in D	Price in B	Domestic production in B	Imported amount by B	Budget earnings of B from tariff	Loss of revenue of suppliers of D from domestic markets, due to tariff of B	Loss of revenue of suppliers of D from foreign markets, due to tariff of B,
18,235	18,235	1,000,000,000	827,650,000	827,650,000,000	40,946,272,500	117,949,025,000

44) Use information in question 41; assume now that country B and D are freely trading (no tariffs). Government of country D decides to support exporters and gives subsidy in terms of tax cuts; old tax was equal to 5% of revenue, now exporters will pay 3% revenue tax. This fiscal support impacted suppliers of D positively by increasing their production (supply) at any price by 200,000,000 m³. How this export subsidization will impact trade: prices, total production, import and tax revenue?

a)

Price in D (in Manats)	Price in B (in Manats)	Domestic sales in D (in m ³)	Exports of D (in m ³)	Budget earnings of government D before export subsidy (5% revenue tax) (in Manats)	Budget earnings of government D after export subsidy (3% revenue tax) (in Manats)
17,059	17,059	829,410,000	905,900,000	1,496,318,512,500	888,079,598,700

b)

Price in D (in Manats)	Price in B (in Manats)	Domestic sales in D (in m ³)	Exports of D (in m ³)	Budget earnings of government D before export subsidy (5% revenue tax) (in Manats)	Budget earnings of government D after export subsidy (3% revenue tax) (in Manats)
18,059	18,059	879,410,000	905,900,000	1,496,318,512,500	888,079,598,700

c)

Price in D (in	Price in B (in	Domestic sales in D	Exports of D (in m ³)	Budget earnings of government D	Budget earnings of government
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Manats)	Manats)	(in m ³)		before export subsidy (5% revenue tax) (in Manats)	D after export subsidy (3% revenue tax) (in Manats)
18,059	17,059	829,410,000	905,900,000	1,396,318,512,500	888,079,598,700

45) Use information in questions 39; assume countries B, C and E open up for free trade. Government of country E wants to subsidize export through lowering down revenue taxes (only tax) from original 8% to 5%. This is expected to positively impact producers and they will produce 400,000,000 m³ more than before. Calculate, will this increase tax revenue of country E or would it be better if old taxes left unchanged?

- a) Tax revenue decreases, so old tax better stay and export subsidization should be stopped!

Global price before export subsidy (in Manats)	Global price after export subsidy (in Manats)	Total production of country E before export subsidy (in m ³)	Total production of country E after export subsidy (in m ³)	Budget earnings of government E before export subsidy (8% revenue tax) (in Manats)	Budget earnings of government E after export subsidy (5% revenue tax) (in Manats)
32,500	30,000	1,425,000,000	1,700,000,000	3,705,000,000,000	2,550,000,000,000

- b) Tax revenue decreases, so new tax better stay and export subsidization should be continued!

Global price before export subsidy (in Manats)	Global price after export subsidy (in Manats)	Total production of country E before export subsidy (in m ³)	Total production of country E after export subsidy (in m ³)	Budget earnings of government E before export subsidy (8% revenue tax) (in Manats)	Budget earnings of government E after export subsidy (5% revenue tax) (in Manats)
22,512	20,000	1,625,000,000	1,900,000,000	4,705,000,000,000	3,550,000,000,000

- c) Tax revenue increases. Export subsidization works, new tax better stay!

Global price before export subsidy (in Manats)	Global price after export subsidy (in Manats)	Total production of country E before export subsidy (in m ³)	Total production of country E after export subsidy (in m ³)	Budget earnings of government E before export subsidy (8% revenue tax) (in Manats)	Budget earnings of government E after export subsidy (5% revenue tax) (in Manats)
37,500	30,000	1,125,000,000	1,700,000,000	3,705,000,000,000	4,550,000,000,000

46) Use information in question 39; assume all five countries open up for trade. Which country(s) will be exporter(s), global price and how much will be exported?

- a)

Exporters	Price	Exported quantity (in m ³)
A,D,E	24,839	1,509,660,000

b)

Exporters	Price	Exported quantity (in m ³)
A,D	22,839	1,109,660,000

c)

Exporters	Price	Exported quantity (in m ³)
D	19,239	1,709,660,000

47) Use information in questions 39; assume country F with demand function and supply function of natural gas given below, starts trading with country A. Who will be exporter and who will be importer?

$$Q_d = 2,000,000,000 - 40,000P$$

$$Q_s = 50,000P + 200,000,000$$

- a) No trade will occur between A and F
- b) F is exporter
- c) A is exporter
- d) I do not know I should ask my mom about it
- e) F is importer

Yhlas mugallym şeýle diýdi:

- Hindi kinolary iň gyzykly ýerinde gutarýar mydama: Aşyk-magşuklar myradyna ýetýärler we toý edýärler. Asyl hakyky gyzykly ýeri toýdan soň başlaýar-a!

48) Which one below is correct condition for subsidizing exports?

- a) Government's tax revenue (from taxing exporters), at least, must stay the same or increase!
- b) Prices of exported goods must fall in domestic markets!
- c) Prices of exported goods must rise in foreign markets!
- d) Exported goods must be of low quality!
- e) Exported goods must be of high quality!

49) Which one below is not expected when country exports goods and services?

- a) Export subsidization will always increase welfare and tax revenue!
- b) Wages (at least in exporting sector) will rise!
- c) Prices of exported goods will rise in domestic markets!
- d) Tax revenue of government will increase!
- e) Exporting sectors in domestic economy will expand in size!

50) Which one below is not expected when country imports goods and services?

- a) Importing is harmful for economy and countries must try not to import anything!
- b) Prices of imported goods will fall in domestic markets!
- c) Domestic sectors of goods that are being imported will shrink in size!
- d) Domestic production of imported goods will fall!
- e) Wages in imported goods sector of domestic economy will fall!
- f) Importing goods will increase welfare through increasing consumer surplus!

51) Which one below is not the negative impact of applying long term protectionism?

- a) At the early stage of development protectionism is vital because it decreases “entrance cost” of domestic producers to markets!
- b) Domestic companies will tend to grow with slower rate and develop less new products because they know that they are protected!
- c) Domestic producers will urge to cooperate (oligopolies) instead of competition to reap higher benefits!
- d) Domestic producers will charge higher prices for low quality goods!
- e) Domestic companies will always urge government for stricter protectionism!
- f) Domestic companies will always complain about technological advancement of foreign companies, about financial might of foreign companies and will bring thousands of reasons, and millions of fairy tales to keep protectionist policy of the government.

52) Which country below is known with its “isolated” trade policy?

- a) India
- b) China
- c) Portugal
- d) Spain
- e) Japan

53) Which one below is not an example for trade barrier?

- a) Trade agreement
- b) Import tariff
- c) Excise tax
- d) Export or import quota
- e) Complex custom duty rules
- f) Transit quota
- g) Sanctions

54) Which policy below is not against free trade policy?

- a) Being member of international trade unions
- b) Import substitution policy
- c) Protectionist policy

- d) Isolationist policy
- e) Trade sanctions

55) Which country below is not under any trade sanctions in 2023?

- a) Indonesia
- b) Russia
- c) Iran
- d) Israel
- e) Cuba
- f) Venezuela
- g) North Korea
- h) Sudan

56) What is the most correct definition of “trade war”?

- a) Trade war is a war between nations whose target is (again as in any war) to reach political targets (independence, political reform, administrative reform, etc.) through imposing all kinds of trade barriers to other one another such as sanctions, high import tariffs, dumping policy, etc.
- b) Trade war is competition war of two or more companies for markets
- c) Trade war is a war for trade routs
- d) Trade war is a war between nations for resources

57) Which trade war between nations never occurred in history?

- a) India-Iran
- b) USA-China
- c) EU-Russia
- d) Israel-Libya
- e) Japan-China
- f) South Korea-Japan

58) Which organization below is not trade related?

- a) FATF
- b) NAFTA
- c) WTO
- d) ASEAN
- e) OSCE

59) According to international conventions trade of which good (in any form) is illegal?

- a) Humans
- b) Guns

- c) Radioactive elements
- d) Drugs
- e) Citizenship

60) Which one below is not a trade related?

- a) Solow's Growth Model
- b) Heckscher-Ohlin Model
- c) Gravity theory
- d) Standard Trade Model
- e) The Ricardian Model
- f) The Specific Factors Model

Yhlas mugallyma soradylar:

- Çagalarymy ylymly-bilimli etmek üçin olary okuwlarynyň daşyndan her-hili bilim merkezlerine gatnadýaryn. Mugallym tutup öýde-de okatdyrýaryn, garaz çykdaýy baryny edýärim.

Yhlas mugallymyň jogaby:

- Iň arzany we iň haýyrlysy, ene-atanyň özüniň ylymly-bilimli bolmagy we çagalarynyň üstünde özüniň zähmet çekmegidir. Öýde kitap açylmagy, ylymly we gowy gürrüňleriň edilmegi çagalar üçin iň uly nusgadyr. Hossarlary ylymdan uzakda, kitap açylmaýan, okalmaýan maşgalada, çagalaryň bilim merkezlerine gatnadylmagynyň, ýada beýleki çykdaýylaryň peýdasy hiç ýok derejede az, bereketi hem ýokdur! Ýyllar boýy gatnabam öwrenen üýtgeşik zady bolmaz! Ene-atanyň çagasynyň bilimi üçin aýyran 10 minudy (meselem öý işini bile barlamak), bilim merkeziniň 10 sapagyndan bereketlidir! “Tut agajynda, nar bitmez”

Monetary Policy

- 1) Assume that central bank of the government is using money supply growth targeting policy when implementing monetary policy. Government is planning to keep inflation rates at 3.3% while expected output growth is to be around 7.7%. What must be central bank's money supply to hit the targeted inflation rate?
 - a) Central bank must increase money supply approximately by 11.25%
 - b) Central bank must increase money supply approximately by 4.25%
 - c) Central bank must decrease money supply approximately by 11.25%
 - d) Central bank must decrease money supply approximately by 4.25%
 - e) Central bank must close down because inflation target could never be hit!
 - f) Government should not put such an unattainable target for central bankers.
- 2) In question 1, assume that current quantity of money in an economy is 50 Trillion Manats. In terms of money, how much money must be emitted to keep inflation rates at 3.3% when growth is expected to be around 7.7% next year?
 - a) 5.627 Trillion Manats must be emitted.
 - b) 5 Trillion Manats must be emitted.
 - c) 4.627 Trillion Manats must be emitted.
 - d) 2.627 Trillion Manats must be emitted.
 - e) 3.627 Trillion Manats must be emitted.
- 3) Use information given in question 1 and 2; at the end of the second quarter, statistical numbers showed that economy is growing with higher rate which is 8.8%, what is the correct reaction of central bank to this?
 - a) In order to keep targeted inflation rate, central bank must increase money supply.
 - b) In order to keep targeted inflation rate, central bank must decrease money supply.
 - c) Targeted inflation rate must be changed.
 - d) Economic growth must be slowed down in order to keep targeted inflation rate.
 - e) Central bank must not intervene to economy; everything will be corrected by business cycle.
- 4) Use information given in questions 1-3; what will happen to inflation rate if central bank sticks to old money supply policy and does not do any alterations regardless of changed growth?
 - a) Inflation rate will be 2.25% at the end of current year if no alterations is carried out by central bank
 - b) Inflation rate will be 4.25% at the end of current year if no alterations is carried out by central bank
 - c) Inflation rate will be 3.3% at the end of current year

- d) Inflation rate will be -1.25% at the end of current year if no alterations is carried out by central bank
 - e) Inflation rate will be 5.5% at the end of current year if no alterations is carried out by central bank
- 5) Use information given in questions 1-4; at the end of the second quarter statistical numbers showed that economy is growing with faster rate than expected which is around 8.8%. In quantity terms, how much money must be supplied in third and fourth quarters?
- a) 3.3817 Trillion Manats must be supplied to economy till the end of current year.
 - b) 2.8135 Trillion Manats must be supplied to economy till the end of current year.
 - c) 3.0976 Trillion Manats must be supplied to economy till the end of current year.
 - d) 6.1952 Trillion Manats must be supplied to economy till the end of current year.
 - e) 5.627 Trillion Manats must be supplied to economy till the end of current year.
- 6) Use information given in questions 1-5; at the end of the 10th month due to huge negative energy shock economic slowdown is witnessed and now, experts predict that current year economy will grow only 6.9%, instead of 8.8% as expected before. How should central bank react in order to keep targeted inflation at initial 3.3% as planned before?
- a) Central bank must find ways to collect back (in next two month) 146 Billion Manats of previously supplied money to keep inflation rates at 3.3%
 - b) Central bank must find ways to collect back (in next two month) 530 Billion Manats of previously supplied money to keep inflation rates at 3.3%
 - c) Central bank must find ways to collect back (in next two month) 246 Billion Manats of previously supplied money to keep inflation rates at 3.3%
 - d) Central bank must find ways to collect back 346 Billion Manats of previously supplied money to keep inflation rates at 3.3%
 - e) Central bank must supply extra 146 Billion Manats in next two month to keep inflation rates at 3.3%
- 7) In question 6, what will happen to inflation rate if central bank will not intervene, regardless of slowing down economy, and stick to previous money supply plan where expected growth rate is 8.8% and targeted inflation rate is 3.3%?
- a) Inflation will shoot up to 5.1%
 - b) Inflation will shoot up to 7.1%
 - c) Inflation will stay the same
 - d) Inflation will drop to 2.25%
 - e) Inflation will drop to 1.5%.
- 8) In question 6, what will happen to inflation rate if central bank does not intervene at all, thus money is not supplied while growth rate is expected to be around 8.8%?

- a) Deflation around 8% is expected if no money is supplied.
 - b) Deflation around 8.8% is expected if no money is supplied.
 - c) Inflation around 8% is expected
 - d) Inflation around 8.8% is expected
 - e) No supply no change in inflation rate, it will stay the same as previous year
- 9) In question 6, how can central bank collect back previously supplied money from economy so that inflation will be kept around targeted 3.3% rate?
- a) Central banker can sell government bonds to absorb extra cash from economy to bring inflation rate down
 - b) Central banker can purchase government bonds to inject liquidity to keep inflation rate at 3.3%
 - c) Central banker can decrease policy interest rate to impact inflation through money market
 - d) Central banker can sell foreign reserve currency try to protect local currency from depreciation
- 10) Director of Central Bank says that “Last year inflation rate was around 1.8% and this year we are closing it almost 0%”. How this information will be taken by markets?
- a) Prices remained the same
 - b) Prices will rise
 - c) Prices will drop
 - d) Prices are fluctuating, nobody knows what to expect
 - e) Prices are always stable, no worries!
- 11) Price of pair of jeans was 1,000 Manats in 2008. If average annual inflation rate were around 3% for the past 20 years, what was price of the jeans in 1988?
- a) Around 554 Manats
 - b) Around 454 Manats
 - c) Around 354 Manats
 - d) Around the same price
 - e) Around 1,806 Manats.
- 12) Annual inflation rates are given in below table. Find average annual inflation rate.

Year	Inflation rate
2000	+5.8
2001	+3.7
2002	+1.3
2003	+0.2
2004	-1.4
2005	-3.3
2006	-4.7
2007	+1.4
2008	+3.5
2009	+7.7

2010	+8
2011	+9

- a) +2.6%
- b) +2.2%
- c) +1.9%
- d) -1.1%
- e) -2.6%

13) Use table in question 12; if price of the carpet was 5,000 Manats in the beginning of 2009, find its approximate price in the beginning of 2001?

- a) Approximately 4,981 Manats
- b) Approximately 4,781 Manats
- c) Approximately 3,981 Manats
- d) Approximately 5,000 Manats
- e) Approximately 5,325 Manats

14) Below is given CPI (Consumer Price Index) of country A. Use below table and find out annual inflation rates.

Goods	Prices 2020	Prices 2021	Prices 2022	Prices 2023	Prices 2024	Prices 2025	Prices 2026	Prices 2027	Prices 2028
Oil	30	31	35	38	30	27	29	31	33
Wheat	12	13	15	14	10	7	9	10	13
Cotton	23	25	25	28	24	20	24	25	29
Gasoline	3	3	3	3	3	3	3	3	3
Meat	50	50	55	60	55	48	54	58	65
Potato	10	14	15	15	13	10	11	13	14
Tomato	8	10	10	12	10	7	9	11	13
Chicken	35	38	40	42	40	30	33	37	40
Medicals	100	120	150	180	200	155	140	180	210
Cloth	140	120	130	150	170	100	170	200	240
Transportation	50	60	60	65	70	52	55	64	65
Rent	2500	3000	3200	3500	3800	3000	3300	3450	3710
Communication	40	50	50	55	60	50	58	60	62
Electricity	35	35	40	44	45	32	35	39	40
Gas	8	8	9	10	10	10	8	11	14
Water	22	22	22	25	25	20	22	25	28
Education	2000	2400	2500	3000	3150	3300	3200	3480	3500

- a) 2021=+18.4%, 2022=+6%, 2023=+13.9%, 2024=+6.5%, 2025=-11%, 2026=+4.2%, 2027=+7.5%, 2028=+5%
- b) 2021=+18.4%, 2022=+5.2%, 2023=+12%, 2024=+6%, 2025=-9%, 2026=+4.9%, 2027=+7.5%, 2028=+5%
- c) 2021=+16%, 2022=+3%, 2023=+11%, 2024=+8.5%, 2025=-13%, 2026=+2.2%, 2027=+7.5%, 2028=+3%
- d) 2021=+12%, 2022=+9%, 2023=+13.9%, 2024=+5.5%, 2025=-11%, 2026=+4.2%, 2027=+7.5%, 2028=+5%
- e) 2021=+18.4%, 2022=+6%, 2023=+13.9%, 2024=+9.5%, 2025=+8%, 2026=+4.8%, 2027=+7.5%, 2028=+5%

15) Use table in question 14, prices of which good had risen the most in 2021?

- a) Potato
- b) Communication
- c) Education
- d) Rent
- e) Tomato

Yhlas mugallyma soradylar:

- Năme üçin kăbir dăwletler şeýle bir baý, haýsy tarapyndan tutsaň bir kemsiz?

Yhlas mugallymyň jogaby:

- Aklyny ulanany üçin!

16) Use table in question 14, prices of which good had fallen the most in 2025?

- a) Cloth
- b) Communication
- c) Meat
- d) Gasoline
- e) Wheat

17) Price of meat is 65 Manats per kilo in 2028. Use annual inflation rates of the past years and calculate what were price of meat in 2022. Do inflation rates predict correct price of meat in 2022?

- a) 51.2 Manats. Yes, error term is around 7%
- b) 51.2 Manats. No, prediction must be exact.
- c) 53 Manats. Yes, error term is around 6%
- d) 54 Manats. No, error term is around 8%
- e) 55 Manats. Yes, error term is around 10%

18) How prices raised in 2028 compared to 2020?

- a) Prices had risen by 59%
- b) Prices had risen by 45%
- c) Prices had risen by 39%
- d) Prices had risen by 75%
- e) Prices had risen by 55%

19) Price of which good had gone up the most in past 8 years?

- a) Medicals

- b) Education
- c) Rent
- d) Communication
- e) Cloth

20) Below is given a table where prices of goods and services in three different countries are given in their domestic currency (Country A= currency A, Country B=B, Country C=C). Use below table and calculate purchasing power parity between currencies (All of them are using floating currency rate).

Goods	Prices in country A	Prices in country B	Prices in country C
Oil	84	4	244
Meat	300	4	780
Cloth	250	80	800
Banana	56	4	350
Medical services	560	100	2,000
Gasoline	40	2	130
Communication	140	12	600
Computers	17,000	700	1,000
Wheat	80	1.2	150
Potato	110	4	160
Tomato	60	2	120
Chicken	198	12	300
Onion	33	2.4	90

- a) $1B=20.4A=7.25C$
- b) $1B=18A=6.25C$
- c) $1B=20.4A=6.25C$
- d) $1B=14.4A=17.25C$
- e) $1B=20.4A=12.25C$

21) Use table in question 20, how purchasing power parity of currencies will change if Country A's inflation rate is 9%, Country B's inflation rate is 6.5% and Country C's inflation rate is -5% next year?

- a) $1B=20.86A=6.47C$
- b) $1B=20.6A=6.47C$
- c) $1B=23.86A=6.47C$
- d) $1B=20.86A=8.47C$
- e) $1B=21.86A=5.47C$

22) Use table in question 20, how purchasing power parity of currencies will change if all economies have the same inflation rate changes next year?

- a) Exchange rates will not change!
- b) Exchange rates will go up equally!
- c) Exchange rates will go down equally!
- d) Inflation has no impact on exchange rates!

- 23) According to “Phillip’s curve” unemployment and inflation has negative correlation. Although intelligent central bankers know that this is not always the case. Give example when?
- a) Supply shocks
 - b) Demand shocks
 - c) When natural rate of unemployment increases
 - d) When financial crisis hits in
 - e) When population grows rapidly
- 24) Which policy below does (not implemented by any central bank) not belongs to central banks?
- a) Inflation rate targeting policy
 - b) Growth rate targeting policy
 - c) Exchange rate targeting policy
 - d) Risk management approach
 - e) Money supply growth rate targeting
 - f) Unemployment rate targeting policy
- 25) Which one below does not possess a risk for central bank of the country where exchange rate targeting policy is used?
- a) Pegged currency is appreciating
 - b) Pegged currency is depreciating
 - c) Foreign investors pull back their investments due to grim future expectations
 - d) Foreign investors increase investment activity
 - e) Meltdown of the reserve currency reserves of the central bank
 - f) Increasing inflation rate
 - g) Decreasing inflation rate
 - h) All of them possess a risk
- 26) Assume that Country A’s central bank monetary policy is exchange rate targeting policy, that is why its currency (A) was pegged to Country B’s currency (B) with exchange rate of $1B=10A$. We have to also mention that Country B’s currency, B, is also used in international trade and used as reserve currency by many countries. What must central bank of Country A do to keep exchange rate stable if export of goods of Country A is growing rapidly?
- a) Purchase local currency A and sell currency B
 - b) Purchase local currency B and sell currency A
 - c) Increase taxes and save for tomorrow
 - d) Increase taxes on exported goods
 - e) Do nothing, everything will be corrected by business cycle

- 27) Use information in question 16, what will be pressure on local currency A if balance of trade (current account) is closed negative this year and it looks like it will also be negative next year?
- Depreciating pressure on currency A
 - Appreciating pressure on currency B
 - No pressure, everything is cool!
 - Pegged currency A will depreciate
 - Country B must choose another currency for pegging immediately!
- 28) Use information in question 16, what will be pressure on local currency if Country A's tourism sector booms (increased tourist inflow!)?
- Depreciating pressure on currency B
 - Appreciating pressure on currency A
 - No pressures, everything is cool!
 - Pegged currency A will appreciate
 - Country A must close doors for tourists!

Yhlas mugallymyň iň halamaýan zady, sapagyň gyzgalaňly ýerinde talyplaryň biriniň, ünsi bölüp, hajathana rugsat soramagy eken. Bir gün sapaga gelen Yhlas mugallym talyplara:

- Siýjegiňiz ýada syçjagyňyz bar bolsa şu wagt ýörüň, sizi, çagalar bagyndaky ýaly, öňüme salyp hajathana alyp gitjek. Soň onsoň ünsümi bölmäň-diýipdir.

- 29) Use information in question 16, how will Country A's export be impacted if due to high local inflations Country B decides to increase central bank's policy interest rate?
- Currency A will appreciate and exports of Country A will tend to decrease.
 - Currency A will depreciate and exports of Country A will tend to increase.
 - Currency A will appreciate and exports of Country A will tend to increase.
 - Currency A will depreciate and exports of Country A will tend to decrease.
 - No change in Country A because it does not depend on Country B's local economic and financial policies.
- 30) Use information in question 16, assume Country A's output growth rate is booming, local inflation rate is low and its economy is following export oriented growth path. These macroeconomic indicators are attracting many investors and all of a sudden huge inflow of foreign capital is witnessed. Can Country A keep its exchange rate policy stable when inflow of capital is growing and at the same time keep on exporting more goods and services?

- a) No, exchange rate targeting policy makes it hard for central banks to focus on domestic issues
 - b) Yes, inflow of capital will depreciate currency A and it will increase exports
 - c) Yes, inflow of capital will appreciate currency A and it will positively impact current account balance
 - d) Yes, exchange rate targeting policy is one the best and the most independent monetary policy ever created!
- 31) Federal Reserve System of United States of America was the only central bank which had ever used risk management approach when implementing monetary policy. No other central bank ever implemented risk management approach in monetary policy. It is basically “just do it” or “fix it as you go” kind of approach without some targeted inflation rate, money supply or unemployment rate. There was no strict economic, financial, econometric or even mathematic model followed in risk management approach by Federal Reserve System. Then, what “Taylor’s rule” has to do with risk management approach of Federal Reserve System?
- a) Economist John B. Taylor created a simple model which approximated well enough Federal Reserve System’s monetary policy actions.
 - b) Economist John B. Taylor was the “father of the risk management approach”.
 - c) Economist John B. Taylor was the head of the Federal Reserve System who first started implementing this monetary policy.
 - d) Economist John B. Taylor was the “uncle of the risk management approach”.
 - e) Economist John B. Taylor had a rule, “Live the way you like and solve problems in life as they appear”. Federal Reserve System just adopted this life philosophy approach and used in monetary policy.
- 32) Use Taylor’s rule and find out what will be Federal funds rate (central bank interest rate policy of U.S) if inflation increases by 2% and output gap increases by 3% (positive output gap means growth of production)?
- a) Taylor’s rule predicts that Federal funds rate will be around 5.5%
 - b) Taylor’s rule predicts that Federal funds rate will be around 4.5%
 - c) Taylor’s rule predicts that Federal funds rate will be around 3.5%
 - d) Taylor’s rule predicts that Federal funds rate will be around 2.5%
 - e) Taylor’s rule predicts that Federal funds rate will be around 1.5%
- 33) “Those central banks that use inflation targeting monetary regime must know that there are time lag problem which are both long and variable and can take from ten up to twenty months for a change in the policy interest rate to work through aggregate demand and fully affect inflation”. This given time lag may depend on what?
- a) On number of TV channels
 - b) On development of financial markets and market size of the economy
 - c) On number of population
 - d) On power of central bank in country

e) On number employees of government sector

34) Choose from below which one mentions an advantage of using fixed exchange rate policy?

- a) Stable trade
- b) Central bank has to keep reserve currency
- c) Strict control over inflow and outflow of capital
- d) Difficulty for central bank to manage domestic financial issues
- e) Risk of speculation

35) Choose from below which one mentions correct definition of “floating exchange rate policy”?

- a) Allowing forces of the market (supply and demand) to determine value of the currency
- b) Allowing international governments to determine value of the currency
- c) Allowing international institutions to determine value of the currency
- d) Allowing Santa Clause to determine value of the currency
- e) Allowing International Monetary Fund and World Bank to determine value of the currency

36) Below are given tools for battling inflation. Which tools belong to or directly involve central banks?

- a) Selling bonds
- b) Cutting budget spending
- c) Increasing central bank policy interest rate
- d) Purchase of domestic currency by central banks using reserves
- e) Increasing reserve ratios of the banks
- f) Switching from fixed to progressive taxation system
- g) Decreasing import tariffs
- h) Liberalize trade
- i) Strict laws against monopoly and “price fixing”
- j) Battling against financial crimes
- k) Decreasing bureaucracy
- l) Independence of central banks from government
- m) Stop erratic emission of money
- n) Limitations on foreign and domestic debt of governments

- a) a, c, d, e, l, m
- b) a, c, d, j, e, l, n
- c) f, g, k, l, m
- d) a, c, e
- e) m, n

37) Choose which one is not a function (in general) of central banks?

- a) Emitting money
- b) Licensing and monitoring financial institutions
- c) Selling/purchasing of government bonds
- d) Lending to banks
- e) Keeping exchange rate stable
- f) Keeping inflation rate stable
- g) Lending to government
- h) Penalizing financial institutions
- i) All of above are functions of central banks

- a) a, g
- b) h
- c) c
- d) i
- e) d, g

38) A bond with face value of 10,000,000 Manat and coupon of 50,000 Manat once in quarter has maturity year of 25 years is sold. If current annual deposit rates are 8% compounded semi-annually find approximate current price of this bond.

- a) 3,555,713 Manats
- b) 7,204,809 Manats
- c) 10,000,000 Manats
- d) 9,330,760 Manats
- e) 5,240,850 Manats

39) Use information in question 38, assume now that owner of this bond wants to sell it after 18 years, thus only 7 years prior to maturity. If annual deposit rate remains the same, what will be price of this bond at that time?

- a) 6,827,073 Manats
- b) 8,717,508 Manats
- c) 8,617,508 Manats
- d) 8,517,508 Manats
- e) 8,417,508 Manats

40) Use information in question 38, what if annual deposit rate was 10% compounded daily. What will have been the price of the bond then?

- a) 2,683,115 Manats
- b) 5,867,197 Manats
- c) 5,767,197 Manats
- d) 5,667,197 Manats
- e) 5,567,197 Manats

41) Assume that central bank decreases policy interest rate, how this will impact inflation rate, bank deposit rate, bond prices, corporate share prices and exchange rate of domestic currency (floating)?

- a) Decreasing central bank policy interest rate means making money cheaper for all other banks this will increase inflation rate, decrease bank deposit rate, increase prices of bonds and corporate shares and put depreciating pressure on domestic currency.
- b) Decreasing central bank policy interest rate means making money more expensive for all other banks this will decrease inflation rate, increase bank deposit rate, decrease prices of bonds and corporate shares and put depreciating pressure on domestic currency.
- c) Decreasing central bank policy interest rate means making money cheaper for all other banks this will increase inflation rate, decrease bank deposit rate, decrease prices of bonds and corporate shares and put depreciating pressure on domestic currency.
- d) Decreasing central bank policy interest rate means making money cheaper for all other banks this will increase inflation rate, decrease bank deposit rate, increase prices of bonds and corporate shares and put appreciating pressure on domestic currency.
- e) Decreasing central bank policy interest rate means making money more expensive for all other banks this will increase inflation rate, decrease bank deposit rate, increase prices of bonds and corporate shares and put depreciating pressure on domestic currency.

42) How central bank lends money to local government?

- a) Budget is a pocket of government and when it needs money, it first takes a look at a budget. When there is no extra money there, no budget surplus, government borrows some from central bank. Government issues government debt obligations where promises to pay certain amount of money after certain amount of time. Sometimes with fixed coupon payments and sometimes not. These “papers with promises” are called government bonds. Central bank accepts those bonds as collateral and emits needed amount of money for government. Government then uses that money according to its economic policies with the reminder “in head” that debt must be paid back on promised day.
- b) Government tells central bank how much money to emit and central bank does it.
- c) Government requests a loan from private banks and uses central bank as mediator.
- d) Government requests a loan from foreign banks and uses central bank as mediator.
- e) Government requests a loan from private banks and orders central bank to emit enough money to repay loans to banks
- f) Lending by central bank is the same as lending by private banks: Borrower needs to fill all needed blanks and applications for loan.

43) When “public debt” is created?

- a) When local government borrows from central bank using bonds as collateral
- b) When local government borrows from public
- c) When local government borrows from government employees
- d) When local government borrows from aliens
- e) When local government borrows from elves

44) When “foreign debt” is created?

- a) When local government borrows from central bank using bonds as collateral
- b) When domestically issued bonds are being bought by foreign economies
- c) When local government borrows from government employees
- d) When local government borrows from aliens
- e) When local government borrows from elves

Ýaltarak talyplaryň biri Yhlas mugallymyň ýanya gelip, umyt bilen:

- Mugallym, özümi gowuja “gyssam” , menden näme çykarka?

Yhlas mugallymyň jogaby:

- Seni “gyssaň” diňe bok çykar!

45) What happens when governments cannot pay their debt (domestic or foreign)?

- a) It is called default. Process of debt restructuring starts which means government may have to cut spending and increase taxes and do many other fiscal and monetary policy reforms.
- b) It is called liquidation. Process of liquidation of government starts which means government assets will be privatized and sold in auctions.
- c) It is called bankruptcy. Many people will suffer and debt restructuring of government starts.
- d) It is called crisis. Unemployment will rise and migration out will increase.
- e) It is called New Year’s Eve. Everybody will be happy and congratulate each other.

46) How government bonds are used by central bank to battle inflation?

- a) When central bank sees that inflation rate is spiraling out of the target, it starts selling government bonds which it took as collateral when emitted money for government. By selling bonds central banks withdraw extra cash from markets which lower down inflation. Opposite helps to battle down deflation.
- b) Selling and purchasing bonds are never used to battle inflation.
- c) When central bank sees that inflation rate is spiraling out of the target, it requests government to pay back the debt immediately and sends bonds back to government.

- 47) Which tool is used first by central banks of developed economies (generally?) when inflation or deflation issue kicks in?
- a) Selling or purchasing government bonds.
 - b) Changing central bank's policy interest rate
 - c) Increasing reserve ratios of the banks
 - d) Immediately fixing exchange rate
 - e) Controlling inflow and outflow of money
 - f) Inspecting commercial banks
 - g) Issuing more banking licenses
- 48) Why central banks of developed economies prefer to use policy interest rate changes as last resort for battling inflation?
- a) Because policy interest rate change has macroeconomic effect on economy which means in a long run it impacts investment and spending habit of market
 - b) Because policy interest rate change is bureaucratically so difficult to achieve
 - c) Because policy interest rate change is weak tool for battling inflation
 - d) Because policy interest rate change is not central bank's monetary instrument
- 49) Which one below describes "underground economy" the best and how central banks battle against underground economy?
- a) All earnings from criminal activity, and all earnings evaded (hidden) from tax belong to underground economy. Central banks try to limit amount of cash in economy because underground economy mainly use cash.
 - b) All earnings from illegal activity belong to underground economy. Central banks inspect commercial banks for anti-underground economy law compliance.
 - c) Earnings from which taxes were not paid belong to underground economy that is why employees of central bank and tax services jointly raid commercial banks and private businesses.
 - d) All illegal earnings from gambling and drug trafficking is considered to belong to underground economy, that is why local law enforcement agency and central bank jointly accomplish task force operations to fight against it.
- 50) Which one below is not considered as reason for financial instability?
- a) Interaction of financial activity and economic activity
 - b) Behavior of financial intermediaries
 - c) Inherent asymmetry of information nature of markets
 - d) Heavy debt load of government
 - e) Central bank policy interest rate change
- 51) Which one below is not seen as a concern for financial stability?
- a) Over indebtedness of households
 - b) Over indebtedness of government

- c) Fast rising asset prices
- d) Fast rising inflation
- e) Financial and trade sanctions
- f) Increasing number of banks in an economy

52) $M_2 = M_1 + \text{savings account}$; $M_1 = \text{cash} + \text{checkable deposits}$; Assume that $M_2 = 50$ Trillion Manats, and $M_1 = 32$ Trillion Manats or which is 22 Trillion Manats is cash. If underground economy is estimated to be around 12% of GDP, what percentage of total cash is circulated in underground economy (assume only cash is used in underground economy)?

- a) 27% of total cash is used by underground economy
- b) 22% of total cash is used by underground economy
- c) 17% of total cash is used by underground economy
- d) 37% of total cash is used by underground economy
- e) 47% of total cash is used by underground economy

Yhlas mugallym şeý diýer eken:

- Her kim alym bolmak üçin ýaradylan dälidir, her kim serkerde bolup bilmez, her kim söwdany oňarmaz, her kim sungaty bilmez ýada lukmançylygy oňarmaz. Her bir adamyň durmuşda öz ýeri bardyr, näçe ir ýeriňi tapsaň, sonçada durmuş aňsat bolar!

53) Assume that $\frac{Md_0}{Ms_t} = R p_t$ where Md_0 = money demand and it is an exogenous variable, Ms_t = money supply at period "t" and it is endogenous variable and $R p_t$ = central bank policy interest rate at period "t" and also endogenous variable. Also, from "Quantity theory of money" we know that $Ms_t * V_0 = P_t * Q_0$ where Ms is money supplied at period "t", V is velocity of money and we will take it as $V=1$ here for sake of easiness, P is prices at period "t" and Q is output produced. Use this information to find correlation between central bank policy interest rate and prices (interest rate and inflation).

- a) Prices and central bank policy rate has negative correlation.
- b) Prices and central bank policy rate has positive correlation.
- c) Central bank policy rate is neutral to prices
- d) Correlation cannot be found using these equations

54) Which one below best describes the notion of "neutrality of money" in economics?

- a) Increasing or decreasing money supply does not have any significant impact on productivity in a long run
- b) Increasing or decreasing money supply does not have any significant impact on trade in a short run

- c) Increasing or decreasing money supply does not have any significant impact on output growth in a short run
 - d) Increasing or decreasing money supply does not have any significant impact on unemployment in a short run
 - e) Increasing or decreasing money supply does not have any significant impact on inflation in long run
- 55) Data analyses by central bank show that couple of banks had broken macro-prudential measures couples of times for short period of time and these actions were repeated many times over recently. Capital adequacy requirements were deteriorating to risky low levels too in certain regional banks. Which tool central bank should use to take things under control?
- a) Supervisory
 - b) Lender of last resort
 - c) Open market operations
 - d) Policy interest rate
 - e) Direct market intervention
- 56) Which tool of the central bank mentioned below is more effective when used before financial crisis?
- a) Macro-prudential measures
 - b) Open market operations
 - c) Lender of the last resort
 - d) Central bank policy interest rate
- 57) Monitor and take actions against market risk is one of the main priorities of the central banks of the world. Nothing threatens financial stability than increased market risks which derived from insolvency of the banks in an economy. To help central banks to coup with this risk heads of the central banks joined in 1988 in Basel and came up with general capital adequacy requirements which were basically minimum capital adequacy requirement for banks to be considered as solvent. According to Basel I Accord, what was recommended maximum ratio of Tier 2 capital of the bank to Tier 1 capital?
- a) $\text{Tier 2} = \text{Tier 1}$
 - b) $\text{Tier 2} = 2 * (\text{Tier 1})$
 - c) $2 * (\text{Tier 2}) = (\text{Tier 1})$
 - d) $4 * (\text{Tier 2}) = (\text{Tier 1})$
 - e) $5 * (\text{Tier 2}) = (\text{Tier 1})$
- 58) Assume Bank A had purchased 1,000,000 Manat worth of domestic government bonds, 1,000,000 Manat worth of corporate bonds, also lent 2,000,000 Manat worth of mortgage loan, lent 5,000,000 Manat to local government entity, and purchased 300,000 Manat worth of Chinese government bonds today. How much capital of the bank is required to cover these risks according to Basel I Accord?

- a) 240,000 Manats
- b) 320,000 Manats
- c) 9,300,000 Manats
- d) 300,000 Manats
- e) 2,000,000 Manats

59) After 2007-2010 crisis financial reforms took place in United States such as Dodd-Frank Act which requires largest banks to file “**living wills**” to government supervisory agencies. What is it done for?

- a) “Living will” is the action plan of large banks in crisis times or during financial hardship. Government agencies must be informed of structure of large banks and its steps in case of crisis to evaluate riskiness of those banks
- b) “Living will” is the action plan of large banks in crisis times or during financial hardship. Government agencies want to decrease number of large banks which possess considerable risk to market
- c) “Living will” is the action plan of the government to take over the large bank in times of crisis. Government agencies must be informed of structure of large banks.
- d) “Living will” is the action plan of large banks in crisis times or during financial hardship.

60) Basel III mentions Systematically Important Financial Institutions (SIFI's). Who are they and what Basel III requires central banks to do about SIFI's?

- a) Systematically Important Financial Institutions are huge financial institutions (banks) whose failure (bankruptcy, liquidation, etc.) may cause huge financial instability not only in domestic markets but globally. Basel III Accord requires stricter prudential measures applied to SIFI's by central banks.
- b) Systematically Important Financial Institutions are huge financial institutions (banks) whose failure (bankruptcy, liquidation, etc.) may cause huge financial instability not only in domestic markets but globally. Basel III Accord requires easier prudential measures applied to SIFI's by central banks.
- c) Systematically Important Financial Institutions are huge financial institutions (banks) whose failure (bankruptcy, liquidation, etc.) may cause huge financial instability not only in domestic markets but globally. Basel III Accord requires central banks to go extremely hard on SIFI's because they are evil.
- d) Systematically Important Financial Institutions are huge financial institutions (banks) whose failure (bankruptcy, liquidation, etc.) may cause huge financial instability not only in domestic markets but globally. Basel III Accord requires SIFI's to be closed down and work central banks on it.

Kärdeşleriniň biri bir gün Yhlas mugallyma nalyndy:

- Gijelerine ‘gara basýar’ , näme etse bolarka?

Yhlas mugallymyň jogaby:

- Senem bas!

PART6: Fiscal Policy

- 1) Bottle of black rum is imported and sold here to local customers. Excise tax is 35% of cost per 1 liters of alcohol beverage, value added tax is 20%, profit tax is 10%, and pricing strategy used is cost=value added. Find VAT amount to be paid from each bottle sold if each bottle is 2 liters and sales price is 3,000 Manats.
 - a) 200 Manats
 - b) 300 Manats
 - c) 1,000 Manats
 - d) 500 Manats
 - e) 700 Manats
- 2) Use information given in question 1; find profit tax amount to be paid from each bottle sold.
 - a) 100 Manats
 - b) 200 Manats
 - c) 300 Manats
 - d) 400 Manats
 - e) 500 Manats
- 3) Use information given in question 1; find excise tax amount to be paid from each bottle sold.
 - a) 700 Manats
 - b) 800 Manats
 - c) 900 Manats
 - d) 500 Manats
 - e) 400 Manats
- 4) Use information given in question 1; find total cost of each bottle.
 - a) 2,000 Manats
 - b) 1,000 Manats
 - c) 3,000 Manats
 - d) 4,000 Manats
 - e) 5,000 Manats
- 5) Use information given in question 1; how price would have been impacted if government decided to lift off excise tax from imported alcohol beverage?
 - a) Price will fall down to 2,300 Manats.

- b) Price will rise up to 3,500 Manats.
 - c) Price will not change.
 - d) Price will fall down to 2,000 manats
 - e) Price will fall down to 1,300 Manats
- 6) Use information given in question 1; how price per bottle will change if government decides to impose new tax, ecology tax of 10% on final price, on all alcohol beverages sold. Assume alcohol beverages are strictly inelastic goods.
- a) Price will be raised up to 3,300 Manats per bottle.
 - b) Price will be lowered down to 2,300 Manats per bottle.
 - c) Price will be lowered down to 2,500 Manats per bottle.
 - d) Price will be raised up to 4,300 Manats per bottle.
 - e) Price will be lowered down to 2,000 Manats per bottle.
- 7) Use information given in question 1; assume government decides to eliminate all taxes except value added tax of 30%. What would have been the price per bottle if businessman works with same pricing strategy as before?
- a) Price per bottle will be 2,300 Manats
 - b) Price per bottle will be same as before
 - c) Price per bottle will be 3,300 Manats
 - d) Price per bottle will be 1,300 Manats
 - e) Price per bottle will be 200 Manats
- 8) Assume price elasticity of demand of certain good is elastic. What price strategy will be followed by businessmen if new tax is imposed on that good (or old tax rate is increased)?
- a) Businessmen will pay bigger portion of that tax themselves by cutting from their profits rather than transferring this tax fully to customers.
 - b) Businessmen will fully transfer this tax to customers by increasing price with same amount as taxes.
 - c) Businessmen will try to evade paying taxes.
 - d) Businessmen will write complaining letters to government.
 - e) Businessmen will simply shut the business down.
- 9) Demand= $1,000,000 - 500P$ and Supply= $1,500P$. Assume price elasticity of demand of this good is strictly inelastic. What if, to cover marginal social costs, government decides to impose 100 Manats tax to final price? How will consumption change?
- a) Decreases by 6.7%
 - b) Increases by 6.7%
 - c) Decreases by 4.7%
 - d) Decreases by 3.7%
 - e) Increases by 3.7%

10) $GDP_{2020}=7$ TRLN. Manat, Investment spending (IS_{2020})=1 TRLN. Manat, Government spending (GS_{2020})=1 TRLN. Manat, Consumption spending (C_{2020})=5.4 TRLN. Manat, Export (EX_{2020})=1 TRLN. Manat. Information regarding GDP and its components for the year 2020 is given above. If economists found out that 1% increase in investment spending approximately increases exports by 2%, consumption spending by 0.2% and decreases imports by 0.5%, and also 1% increase in government spending approximately increases consumption spending by 0.3% and imports by 1%, find out GDP of next year if government spending is planned to increase by 90 BLN. Manat and investment spending is planned to increase by 100 BLN. Manat.

- a) $GDP_{2021}=7.587$ TRLN. Manats
- b) $GDP_{2021}=9.66$ TRLN. Manats
- c) $GDP_{2021}=8.66$ TRLN. Manats
- d) $GDP_{2021}=10.66$ TRLN. Manats
- e) $GDP_{2021}=11.66$ TRLN. Manats

11) Use information given in question 10; find marginal propensity to consume.

- a) $MPC=0.68$
- b) $MPC=0.087$
- c) $MPC=0.32$
- d) $MPC=0.87$
- e) $MPC=0.77$

12) Use information given in question 10; which one, Investment spending or Government spending has stronger multiplier effect to economy?

- a) Investment spending
- b) Government spending
- c) They both has similar effects
- d) I should ask my mom about it

13) Use information given in question 10; what is the minimum spending (government, investment or combination of both) required in 2020, to push economy for 1 TRLN. Manats growth in 2021?

- a) Increasing investment spending by 29.5%
- b) Increasing investment spending by 18% and government spending by 20%
- c) Increasing government spending by 25%
- d) Increasing both spending by 320 BLN. Manats

14) Below is given table of countries with their few economic indicators in year 2023. Which country below is poorest country?

Country	GDP (BLN)	Population (MLN)	Inflation rate	Unemployment rate
A	1,090	24	+8	3%

B	45,300	780	+5.5	5%
C	9,500	72	+2	3%
D	30,000	100	-5	2.2%
E	102,500	1,250	+7	8%
F	540	4	+2	3%
G	13,800	9	+3	2%
H	68,400	66	+12	2.5%

- a) A
- b) F
- c) C
- d) D
- e) E

15) Use information in question 14; biggest economy?

- a) E
- b) D
- c) F
- d) H
- e) B

16) Use information in question 14; in which country 'overheating' of an economy is witnessed?

- a) H
- b) A
- c) B
- d) C
- e) E

17) Use information in question 14; assume all economies are open, to which country citizens of Country E will not migrate for work?

- a) B
- b) C
- c) D
- d) G
- e) H

18) Use information given in question 14; below is given economic indicators of 2024. Which country is experiencing stagflation?

Country	GDP (BLN)	Population (MLN)	Inflation rate	Unemployment rate
A	1,110	24	+7	3%
B	47,300	780	+5	5%
C	10,000	72	+2	2.8%
D	31,000	101	-4	2.2%

E	107,500	1,270	+6	7.4%
F	540	4.2	+4	6%
G	13,800	9	+3	2%
H	70,400	66	+10	2.5%

- a) F
- b) G
- c) H
- d) B
- e) D

19) Use information given in question 14; in which country average wage is around 25,000 Manats? (Assume Gini coefficient is almost zero)

- a) D
- b) A
- c) F
- d) H
- e) G

Yhlas mugallyma soradylar:

- Mugallym, siz 'ylym ryzykdyr, baýlykdyr' diýip köp aýtýaňyz, emma özüňiz welin pyýada, ulagyňyzam ýok, bu nä boluş?

Yhlas mugallymyň jogaby:

- Meniň ylymlydygymy nirden bilýäňiz?

20) Use information given in question 14; find out how many people are looking for job if it is known that labor force of Country B is 30% of its population.

- a) 11.7 MLN. people
- b) 7 MLN. people
- c) 23 MLN. people
- d) 16 MLN. people
- e) 13.2 MLN. people

21) Use information given in question 14; find total labor force of Country H if it is known that 1 MLN. people are jobless there.

- a) 40 MLN. people
- b) 30 MLN. people
- c) 50 MLN. people
- d) 20 MLN. people
- e) 10 MLN. people

22) Below is given monthly inflation and unemployment rate reports of Country A. When economy started experiencing positive supply shock?

Month	Inflation rate	Unemployment rate
January 1, 2024	7	6
February 1	7.2	6.1
March 1	7.3	6.2
April 1	7.4	6.3
May 1	7.5	6.4
June 1	7.6	6.5
July 1	7.7	6.6
August 1	7.5	6.5
September 1	7.3	6.3
October 1	7.2	6.1
November 1	7.1	6
December 1	6.8	5.8
January 1, 2025	6.7	5.8
February 1	6.5	6
March 1	6.3	6.1
April 1	6.2	6.2
May 1	6.1	6.3
June 1	6	6.4
July 1	5.8	6.5

- a) August 1, 2024
- b) January 1, 2025
- c) January 1, 2024
- d) June 1, 2024

23) Use information given in question 22; how long impact of positive supply shock to economy lasted?

- a) 6 months
- b) 4 months
- c) 3 months
- d) 8 months

24) Use information given in question 22; what happened to economy after positive supply shock?

- a) Negative demand shock
- b) Negative supply shock
- c) Positive demand shock
- d) Everything stayed same

25) Use information given in question 22; which shock was not experienced by economy of Country A for a given period of time?

- a) Positive demand shock
- b) Negative supply shock
- c) Positive supply shock
- d) Negative demand shock

26) Country A's GDP grows by 5% and population grows by 1.2%. How long will it take for Country A to make their citizens twice as richer as today? (Assume stable growth rate of GDP and population).

- a) 19 years
- b) 15 years
- c) 25 years
- d) 30 years
- e) 33 years

27) Below is given a table with some economic indicators (in BLN. Manats) of countries for 2024. Which economy is experiencing recession?

Countries	GDP (nominal)	GDP growth rate (nominal)	Inflation rate	Unemployment rate	Population (in millions)
A	1,900	3.4%	1.4%	4.9%	93
B	97,000	4.2%	3.2%	4%	1,100
C	360,000	1.4%	1.6%	8.8%	5,500
D	52,000	7%	4%	6%	300

- a) C
- b) D
- c) A
- d) E
- e) B

28) Use information given in question 27; which economy has highest real growth rate?

- a) D
- b) C
- c) B
- d) A
- e) E

29) Use information given in question 27; how long will it take for Country D to catch up Country C's economy? (calculate in nominal terms)

- a) 36 years
- b) 46 years

- c) 56 years
- d) 66 years
- e) Never!

30) Use information given in question 27; how long will it take for Country A to catch up Country B's economy? (calculate in nominal terms)

- a) It will never happen!
- b) 50 years
- c) 87 years
- d) 90 years
- e) 100 years

31) Use information given in question 27; how long will it take for Country A to catch up Country C in terms of wealth of population? (calculate in nominal terms)

- a) 60 years
- b) 70 years
- c) 80 years
- d) 90 years
- e) Never!

32) Below is given information on all producers of goods and services in an economy for 2024. (Output in tons, pieces, clients. Price in Manats). Calculate total export earnings.

Producers	Total Output	Price	Export quantity	Inputs	Imports	Salary expenses	Loan expenses
Wheat	5 MLN. Ton	8,000 Manats/T	1 MLN. Ton	Electricity=100 MLN. K, Robots=1,000 Chemicals=0.3 MLN. Ton	Chemicals=40,000 Manats/T	2 BLN. Manats	1 BLN. Manats
Petrol	100 BLN. Ton	500 Manats/T	40 BLN. Ton	Electricity=500 MLN. K, Robots=5,000 Construction service=0.5 MLN. m ² Chemicals=10 MLN. Ton	Chemicals=40,000 Manats/T	20,000 BLN. Manats	2,000 BLN. Manats
Nickel mining	2 MLN. Ton	100,000 Manats/T		Electricity=100 MLN. K, Robots=1,000 Chemicals=0.2 MLN. Ton	Chemicals=40,000 Manats/T	85 BLN. Manats	50 BLN. Manats
Iron mining	18 MLN. Ton	50,000 Manats/T	2 MLN. Ton	Electricity=100 MLN. K, Robots=1,000 Chemicals=1 MLN. Ton	Chemicals=40,000 Manats/T	600 BLN. Manats	100 BLN. Manats
Diamond mining	1,000,000 Carats	20,000 Manats/C	800,000 Carats	Electricity=100 MLN. K, Robots=1,000		5 BLN. Manats	2 BLN. Manats

Education services	200,000 Students	100,000 Manats/S		Electricity=100 MLN. K		10 BLN. Manats	3 BLN. Manats
Pharmaceutical	25 BLN. Pills	20 Manats/P	2 BLN. Pills	Electricity=500 MLN. K, Robots=5,000 Chemicals=1 MLN. Ton	Chemicals=40,000 Manats/T	200 BLN. Manats	
Robotics	80,000 robots	10 MLN. Manats/R	10,000 robots	Electricity=500 MLN. K, Robots=5,000 Copper=1 MLN. Ton Titanium=0.5 MLN. Ton	Copper=60,000 Manats/T Titanium=200,000 Manats/T	400 BLN. Manats	100 BLN. Manats
Banking services						500 BLN. Manats	
Construction services	5 MLN. m ² new construction	2,000 Manats/m ²		Electricity=100 MLN. K		5 BLN. Manats	
Electricity	3,000 MLN. Kilowatts	10 Manats/K		Electricity=100 MLN. K		10 BLN. Manats	

- a) 20,264 BLN. Manats
- b) 17,540 BLN. Manats
- c) 32 TRLN. Manats
- d) 359 BLN. Manats
- e) 1,290 BLN. Manats

33) Use information in question 32; calculate total import expenses.

- a) 660 BLN. Manats
- b) 1,230 BLN. Manats
- c) 2 TRLN. Manats
- d) 34,890 BLN. Manats
- e) 300,000 BLN. Manats

34) Use information in question 32; below is given annual salaries of employees in each sector. If unemployment rate in this economy is only 2%, find total labor force.

Producers	Annual salary in Manats
Wheat	40,000
Petrol	80,000
Nickel mining	60,000
Iron mining	60,000
Diamond mining	100,000
Education services	100,000
Pharmaceutical	80,000
Robotics	100,000

Banking services	50,000
Construction services	50,000
Electricity	50,000

- a) 284,098,640 people
- b) 220,560,000 people
- c) 23,456,000 people
- d) 450,000,000 people
- e) 400,000,000 people

Yhlas mugallym bir gün sapakda irkilip oturan ýaltarak talyplaryň birini sapakdan kowdy. Sapakdan soň ýaňky kowulan talyp Yhlas mugallymyň kabinetine gelip örän salyhatlylyk bilen sapakda irkileni üçin ötüňç sorady. Gaýtalanmajagyna söz berip öý işi depderçesine öý işini belläp çykyp gitdi. Şol wagt Yhlas mugallymyň kabinetinde başgada bir mugallym bardy we ähli zada şaýat bolupdy. Talyp çykyp gidenden soň kärdeşi:

- ‘Medeniýetlije’ talyp eken-diýdi

Yhlas mugallymyň jogaby:

- Bu göreniň medeniýet däl, gorky! Boş kellede medeniýet bolmaz, bolsa-bolsa diňe gorky bolar!

35) Use information in question 32; find total investment spending.

- a) 873 BLN. Manats
- b) 950 BLN. Manats
- c) 3 TRLN. Manats
- d) 240 BLN. Manats
- e) 1,000 BLN. Manats

36) Use information given in question 32; find profits earned from providing banking services to domestic companies (assume all loans of domestic companies were lent by domestic banking sector only).

- a) 1,756 BLN. Manats
- b) 2,500 BLN. Manats
- c) 320 BLN. Manats
- d) 3,400 MLN. Manats

37) Use information in question 32; find total government spending if government revenue source come from two types of taxes: profit tax and income tax. Income tax is paid by employees only and profit tax is paid by businessmen. Both tax rates are 10% and assume that government spends it all.

- a) 5,164 BLN. Manats
- b) 3,250 BLN. Manats
- c) 7,000 BLN. Manats
- d) 15 TRLN. Manats

38) Use information in question 32; which sector (industry or business) has the lowest profitability ratio? ($\text{Profitability} = \text{Profit} / \text{Revenue}$)

- a) Diamond mining
- b) Robotics
- c) Petrol extraction
- d) Wheat production
- e) Education services

39) Use information in question 32; calculate Gross Domestic Product (GDP).

- a) 53,903 BLN. Manats
- b) 66,700 BLN. Manats
- c) 70 TRLN. Manats
- d) 34 TRLN. Manats
- e) 800 TRLN. Manats

40) Use information in question 32; calculate domestic consumption spending.

- a) 28,262 BLN. Manats
- b) 24,460 BLN. Manats
- c) 22,200 BLN. Manats
- d) 38,620 BLN. Manats
- e) 18,564 BLN. Manats

41) Use information in question 32; what is total profit earned by businessmen?

- a) 29,830 BLN. Manats
- b) 19,950 BLN. Manats
- c) 25,000 BLN. Manats
- d) 39,400 BLN. Manats
- e) 20,000 BLN. Manats

42) Use information in question 32; what portion of total earnings distributed to labor?

- a) 40%
- b) 30%
- c) 20%
- d) 10%
- e) Nothing!

43) How economic growth is achieved?

- a) Using all resources, means of production, trade, investment and development of human capital.
- b) Through selling natural resources.
- c) Wars also bring not bad revenues!
- d) Technology leads to growth!

44) There are a lot of economic growth theories, what is their main point?

- a) Try to understand the growth!
- b) Increase the growth!
- c) Slow down the economic growth!

45) Which one below explains economic growth the best?

- a) Economic growth is like a driving car: if you drive too fast you go to long distance in a short period of time but as your speed goes up, risk of car accident increases. If you drive too slowly, it is much safer, but it will take forever for you to achieve anything.
- b) Economic growth is like fishing: you have to sit and wait patiently till results come.
- c) Economic growth is like weather: you never know what comes you just hope for the best!

46) Economy A grows with 9% and inflation is 6%, while Economy B grows with 4% and with inflation 1%. Find net growth rate of both countries.

- a) $A=2.46\%$ and $B=2.96\%$
- b) $A=2.46\%$ and $B=2.46\%$
- c) $A=2.96\%$ and $B=2.46\%$
- d) $A=2.6\%$ and $B=2.9\%$
- e) $A=2.4\%$ and $B=2.6\%$

47) How will economic growth impact general population in economies where income inequality is high?

- a) High income inequality arises from unfair distribution of means of production (land, resources, etc.) and from economic injustice (financial privileges, tax privileges, unfair competition practices, monopolies, over-regulation, restrictions, corruption, etc.) which basically divides population into two major groups: 'elites' and 'servants'. In this kind of society, economic growth will be 'enjoyed' only by 'elites'. Their wealth will grow; their prosperity will flourish while 'servants' will not 'feel' any change.
- b) Economic impact will be same to all parts of society!
- c) No one will feel any change!

48) Which one below does not impact economic growth negatively!

- a) Political system (Monarchy, Presidential, etc.)
- b) High income inequality!
- c) Inflation!
- d) Undeveloped human capital!
- e) Brain-drain: migration out of high skilled labor force!
- f) Resource based economic policy!
- g) Corruption!
- h) Overly restricted economy!
- i) Weak economic institutions!
- j) Weak human rights!
- k) Bureaucracy!

49) What in reality 'economic growth of 7%' means?

- a) 'Economic growth of 7%' means that all population (everybody!) of that economy must be able to consume 7% more compared to last year! '7% economic growth' means that everybody is 7% richer! If economic equality persists, this growth must be felt by everybody!
- b) 'Economic growth of 7%' means that budget revenue grew by 7%!
- c) 'Economic growth of 7%' means that border-lines expanded by 7%!

50) Some experts say that "Somebody's growth is somebody's recession". Do you agree with that?

- a) No, it is not true. There are over 200 countries and majority of those countries are at the developing stage. Trade and economic cooperation increases welfare in all economies!
- b) Yes, I agree with that. There is no room for everybody; only chosen ones will live in prosperity!
- c) Yes, I agree. Otherwise there would not be any wars!

Pully ýöne örän ýalta talyplaryň biri bir gün Yhlas mugallyma:

- Mugallym, ylmyň bolmanam baý bolup bolýamy?

Yhlas mugallymyň jogaby:

- Dagy näme! Baýlyk ylmyňa görä paýlansady, sen bir eýýäm açlykdan ölerdiň!

PART7: Finance

- 1) Deposited 1,200,000 Manat 9888 days ago to bank with 8% annual interest rate compounded bi-monthly. How much money in my deposited account do I have today?
 - a) 10,673,712 Manats
 - b) 9,673,712 Manats
 - c) 8,673,712 Manats
 - d) 7,673,712 Manats
 - e) 6,673,712 Manats

- 2) Use information in question 1; what if annual interest rate was compounded semi-annually?
 - a) 10,347,193 Manats
 - b) 7,347,193 Manats
 - c) 9,347,193 Manats
 - d) 12,347,193 Manats
 - e) 8,347,193 Manats

- 3) Use information in question 1; how long will it take to turn 1.2 MLN Manats to 12 MLN Manats?
 - a) Approximately 29 years
 - b) Approximately 27 years
 - c) Approximately 25 years
 - d) Approximately 23 years
 - e) Approximately 22 years

- 4) Below is given a credit card transaction activity for the month of March. If you know that bank is charging 25% annual interest rate (simple annual compounding), calculate how much interest is charged to client for activity in March. (Day, Month, Year)?

Date	Purchase amount	Payment	Balance
01.03.2023			7,900
07.03.2023	3,350		11,250
09.03.2023	5,000		16,250
17.03.2023	8,200		24,450
20.03.2023		10,000	14,450
23.03.2023	4,400		14,850
28.03.2023	3,000		17,850
29.03.2023	4,000		21,850
31.03.2023		10,000	11,850

- a) 312 Manats
 - b) 2,300 Manats
 - c) 3,200 Manats
 - d) 540 Manats
 - e) 5,600 Manats
- 5) Use information given in question 4; what if client paid all the debt on balance on 31.03.23 (He paid off 10,000 Manat that day only). How much interest would have been charged for March?
- a) 304 Manats
 - b) 2,154 Manats
 - c) 1,780 Manats
 - d) 3,330 Manats
 - e) 2,500 Manats
- 6) Use information given in question 4; find on average how much interest was paid per day in March?
- a) 10 Manats
 - b) 8 Manats
 - c) 34 Manats
 - d) 83 Manats
 - e) 23 Manats
- 7) Use information given in question 4; find the debt balance on the credit card of the client on 01.05.2023 if you know that for the last day of April, 5.5 Manats were paid (daily interest, not a monthly!).
- a) 7,920 Manats
 - b) 9,730 Manats
 - c) 12,200 Manats
 - d) 15,000 Manats
 - e) 8,800 Manats
- 8) I want to save for my son's college expenses. I can do this by depositing 2,000 Manats once in a month to bank. If bank gives me annual deposit rate of 10% compounded semi-annually, how much money will I be able to save in 200 month?
- a) 1,016,867 Manats
 - b) 400,000 Manats
 - c) 2,340,500 Manats
 - d) 3,300,400 Manats
 - e) 4,005,800 Manats

- 9) If I deposit 50,000 Manat per quarter to my account and if bank gives me 12% annual interest rate compounded daily, how long will it take to save 10 MLN. Manats?
- 53 quarters
 - 50 quarters
 - 100 quarters
 - 90 quarters
 - 85 quarters
- 10) Use information in question 9; how much were you able to save for that period of time if you just put your 50,000 Manats once in quarter to your safe instead of using banking services?
- Around 2,663,000 Manats
 - Around 1,663,000 Manats
 - Around 3,663,000 Manats
 - Around 4,663,000 Manats
 - Around 5,663,000 Manats
- 11) 7,000,000 Manats were loaned for 25 years with annual interest rate of 10% compounded quarterly. Client will pay it back by fixed bi-monthly payments. How much will bank earn (profit) from this loan deal?
- Around 12 MLN. Manats
 - Around 14 MLN. Manats
 - Around 15 MLN. Manats
 - Around 10 MLN. Manats
 - Around 9 MLN. Manats

Bir gün mugallym kärdeşleriň arasynda gürrüň açyldy:

- Ýüz ýyl mundan ozal Ýewropalyar koloniýalaryny ezip, elinde näme bolsa daşadylar, indi bolsa 'adam hukulary', 'demokratiýa' diýip bütin dünýä akyly öwredip ýörler..

Beýleki mugallym goşuldy:

- Aý hawwa, iki-üç ýüz ýyl mundan ozal aýal gyzlara okamak hem gadagandy şol Ýewropada. Okap ýazyp bilýän aýallary otda ýakýardylar. Indi bolsa 'aýal erkek deňligi' diýip akyly satýarlar...

Ýene biri:

- Düşüner ýaly däl. Bu günki dogry, ertir ýalňyş. Dünki ýalňyş, bu gün dogry. Kanunlara we düzgünlere ynalarlyk galmady...

Yhlas mugallymyň jogaby:

- Adamzadyň, hiç bir zada daýanman özüniň toslap döreden her bir zady, kemçiliklidir! Kanunlaram muňa dahylly!

- 12) Use information in question 11; what is client's bi-monthly fixed payment?
- a) 126,950 Manats
 - b) 116,950 Manats
 - c) 96,950 Manats
 - d) 136,950 Manats
 - e) 146,950 Manats
- 13) Use information in question 11; what would have been client's monthly fixed payment if payments were agreed to make once in a month?
- a) 63,234 Manats
 - b) 62,234 Manats
 - c) 61,234 Manats
 - d) 74,234 Manats
 - e) 80,400 Manats
- 14) Use information in question 11; what would have been client's bi-monthly payments if loan was taken for 30 years? (10% annual interest compounded quarterly)
- a) 114,754 Manats
 - b) 124,754 Manats
 - c) 134,754 Manats
 - d) 104,754 Manats
 - e) 94,754 Manats
- 15) Use information in question 14; how much money would have bank made if loan was given for 30 years?
- a) Approximately 13.6 MLN Manats
 - b) Approximately 12.4 MLN Manats
 - c) Approximately 11.8 MLN Manats
 - d) Approximately 15.4 MLN Manats
 - e) Approximately 16.4 MLN Manats
- 16) Use information in question 11; how much money bank would have been made (profit) if first 5 years of 25 years loan deal, client was free from making any payments (no payments required for first 5 years)?
- a) Around 18 MLN. Manats
 - b) Around 16 MLN. Manats
 - c) Around 14 MLN. Manats
 - d) Around 20 MLN. Manats
 - e) Around 22 MLN. Manats

- 17) A company loaned 2 BLN. Manats for 20 years for annual interest rate of 10% compounded monthly. Company made a deal with the bank that first five year period of the twenty year loan deal the company will make no payments at all. Second five year period company will make fixed payments once in month. Third five years company will make fixed payments once in month but twice as much as in second five year period. Last five year period of loan deal the company has to make fixed payments once in month three times as much as second period payments. Calculate last five year period fixed monthly payments.
- a) Approximately 63 MLN. Manats
 - b) Approximately 45 MLN. Manats
 - c) Approximately 35 MLN. Manats
 - d) Approximately 55 MLN. Manats
 - e) Approximately 65 MLN. Manats
- 18) A company loaned 1 BLN. Manats for 30 years for annual interest rate of 12% compounded semi-annually. The company made a deal with the bank that it is not going to pay anything for the first ten years and last ten years. The entire loan will be closed in second ten year period with fixed monthly payments. Calculate monthly fixed payments.
- a) 45,454,545 Manats
 - b) 55,454,545 Manats
 - c) 35,454,545 Manats
 - d) 25,454,545 Manats
 - e) 15,454,545 Manats
- 19) Use information in question 18; how much money the bank made (profit) from this deal?
- a) 4,454,545,454 Manats
 - b) 4,454,545,454 Manats
 - c) 4,454,545,454 Manats
 - d) 4,454,545,454 Manats
 - e) 4,454,545,454 Manats
- 20) Use information in question 18; how much money the bank would have made (profit) if the company had to make fixed monthly payments all 30 years?
- a) 2,624,647,603 Manats
 - b) 1,624,647,603 Manats
 - c) 3,624,647,603 Manats
 - d) 4,624,647,603 Manats
 - e) 5,624,647,603 Manats

- 21) A company loaned 3 BLN. Manats for 50 years for annual interest rate of 9% compounded daily. The company made a deal with the bank that all the debt will be closed by fixed payments once in 50 days. How many payments the company must make?
- a) 365
 - b) 325
 - c) 295
 - d) 375
 - e) 650
- 22) Use information in question 21; calculate fixed monthly payment.
- a) 37,624,631 Manats
 - b) 47,624,631 Manats
 - c) 27,624,631 Manats
 - d) 57,624,631 Manats
 - e) 17,624,631 Manats
- 23) Use information in question 21; calculate total amount of money paid to bank by the company in 50 years.
- a) Around 13.7 BLN. Manats
 - b) Around 11.7 BLN. Manats
 - c) Around 10.7 BLN. Manats
 - d) Around 23.7 BLN. Manats
 - e) Around 9.7 BLN. Manats
- 24) Use information in question 21; assume that bank uses “increasing interest method” where portion of interest rate amount in fixed payments increases gradually with each payment. What is principal amount and interest rate amount in 100th payment of the company?
- a) Principal=10,969,228 Manats and interest amount=26,655,403 Manats
 - b) Principal=26,655,403 Manats and interest amount=10,969,228 Manats
 - c) Principal=36,655,403 Manats and interest amount=10,969,228 Manats
 - d) Principal=26,655,403 Manats and interest amount=15,969,228 Manats
 - e) Principal=16,655,403 Manats and interest amount=20,969,228 Manats
- 25) Use information in question 21; assume that bank uses “decreasing interest method” where portion of interest rate amount in fixed payments decreases gradually with each payment. What is principal amount and interest rate amount in 200th payment of the company?
- a) Principal=4,923,042 Manats and interest amount=32,701,588 Manats
 - b) Principal=6,923,042 Manats and interest amount=30,701,588 Manats

- c) Principal=9,923,042 Manats and interest amount=22,701,588 Manats
 - d) Principal=14,923,042 Manats and interest amount=22,701,588 Manats
 - e) Principal=17,923,042 Manats and interest amount=12,701,588 Manats
- 26) Use information in question 21; assume that bank uses “decreasing interest method” where portion of interest rate amount in fixed payments decreases gradually with each payment. What is interest rate amount portion in the first fixed payment?
- a) 37,206,183 Manats
 - b) 27,206,183 Manats
 - c) 17,206,183 Manats
 - d) 7,206,183 Manats
 - e) 31,206,183 Manats
- 27) Use information in question 21; assume that bank uses “fixed interest and principal method” where portion of interest rate amount and principal amount in fixed payments stays the same for all payments. Calculate interest rate and principal amount in last fixed payment.
- a) Principal=8,219,178 Manats and interest amount=29,405,453 Manats
 - b) Principal=7,219,178 Manats and interest amount=28,405,453 Manats
 - c) Principal=9,219,178 Manats and interest amount=27,405,453 Manats
 - d) Principal=10,219,178 Manats and interest amount=26,405,453 Manats
 - e) Principal=18,219,178 Manats and interest amount=22,405,453 Manats
- 28) I deposited 10,000 Manats once every 40 days to my account and in 4,000 days I had 5,000,000 Manats in my account. If I know that bank gave me quarterly compounded annual interest rate, find the approximate interest rate.
- a) Approximately 24.5%
 - b) Approximately 22.5%
 - c) Approximately 26.5%
 - d) Approximately 29.5%
 - e) Approximately 14.5%
- 29) A company loaned 1 BLN. Manats for 40 years for simple interest rate of 7% compounded annually. Debt must be closed by monthly fixed payments. Bank uses “decreasing interest method”. After 200th payment, the company wants to close the debt fully. Find how much company must pay to close the debt fully after 200th payment?
- a) 850,458,155 Manats
 - b) 750,458,155 Manats
 - c) 650,458,155 Manats
 - d) 550,458,155 Manats
 - e) 450,458,155 Manats

- 30) Use information in question 29; find the debt balance if bank were using “increasing interest method”.
- a) Around 280 MLN. Manats
 - b) Around 380 MLN. Manats
 - c) Around 180 MLN. Manats
 - d) Around 480 MLN. Manats
 - e) Around 580 MLN. Manats
- 31) Use information in question 29; find the debt balance if bank were using “fixed interest and principal method”.
- a) 583,333,320 Manats
 - b) 483,333,320 Manats
 - c) 383,333,320 Manats
 - d) 283,333,320 Manats
 - e) 183,333,320 Manats
- 32) The company loaned 2 BLN. Manats for 25 years for annual interest of 6% compounded bi-monthly. Debt must be closed by bi-monthly payment installments. Bank uses “decreasing interest rate method” when charging interest rates. After 90th payment, the company gets into financial trouble and would not be able to pay off the debt if refinancing by bank is not offered. Bank offers refinancing deal: left over debt balance after 90th payment will be closed in 20 years by fixed payment installments once in quarter with 7% charged compounded annually. Calculate how much money in total (approximately) will be paid by the company to fully close the debt?
- a) 4,480,573,520 Manats
 - b) 3,480,573,520 Manats
 - c) 5,480,573,520 Manats
 - d) 6,480,573,520 Manats
 - e) 7,480,573,520 Manats
- 33) Use information in question 32; what is the debt balance after 90th payment (before financial hardship hit the company)?
- a) 1,162,529,317 Manats
 - b) 1,362,529,317 Manats
 - c) 1,462,529,317 Manats
 - d) 1,662,529,317 Manats
 - e) 2,162,529,317 Manats
- 34) Use information in question 32; what is the company’s initial fixed bi-monthly payment amount and second fixed quarterly payment amount?
- a) Bi-monthly=25,974,026 Manats and quarterly=26,786,390 Manats

- b) Bi-monthly=24,974,026 Manats and quarterly=29,786,390 Manats
- c) Bi-monthly=29,974,026 Manats and quarterly=26,786,390 Manats
- d) Bi-monthly=35,974,026 Manats and quarterly=36,786,390 Manats
- e) Bi-monthly=21,974,026 Manats and quarterly=16,786,390 Manats

Ençeme sapagyny sebäpsiz sypdyran ýalta talyby synanyşygada salman
'ikilik' goýan Yhlas mugallymy bir gün dekan ýanyňa çagyrdy:

- Mugallym, sizede düşüňň, ýöne geçirimlilik etseňiz gowy
bolardy.

Yhlas mugallymyň jogaby:

- Men islendik wagty sebäpsiz ençeme günläp işden galjakdyryn,
eger siz maňa geçirimlilik etseňiz, menem talyba geçirimlilik
edeýin- diýipdir.

Talybyň 'ikilikli' depderçesine dessine dekanyňam goly
goşulypdyr.

- 35) 20,000 Manats were deposited once in 3 weeks where bank gave 13% annual interest rate compounded annually. How long will it take to save 1 BLN. Manats? (1 year=52 weeks).
- a) 2,495 weeks
 - b) 3,495 weeks
 - c) 4,495 weeks
 - d) 5,495 weeks
 - e) 6,495 weeks
- 36) Use information given in question 35; what is cumulative impact of 50th payment to 1 BLN. Manats saved?
- a) 4,904,825 Manats
 - b) 5,904,825 Manats
 - c) 6,904,825 Manats
 - d) 7,904,825 Manats
 - e) 8,904,825 Manats
- 37) Use information given in question 35; what is cumulative impact of 500th payment to 1 BLN. Manats saved?
- a) Around 207,000 Manats
 - b) Around 307,000 Manats
 - c) Around 407,000 Manats
 - d) Around 507,000 Manats

e) Around 607,000 Manats

38) Government has a program of supporting small businesses. It consists of loan amount of up to 1,000,000 Manats for 10 years with only 4% interest charged annually. If market deposit rate is 7% and loan rate is 9%, is this a good loan deal worth taking? Calculate net present value of government's loan deal if maximum amount borrowed.

- a) 320,892 Manats. Yes it is good deal!
- b) 220,892 Manats. Yes it is good deal!
- c) 120,892 Manats. No it is not a good deal!
- d) 20,892 Manats. No it is not a good deal!
- e) -120,892 Manats. No it is not a good deal!

39) Market size for scooters is estimated to be 1 MLN. pieces. Company A is one of the scooter producers in the market and its estimated market share is 22%. If Company A's scooter prices are 30,000 Manats/piece, what is Company A's revenue?

- a) 6.6 BLN. Manats
- b) 5.6 BLN. Manats
- c) 4.6 BLN. Manats
- d) 3.6 BLN. Manats
- e) 2.6 BLN. Manats

40) Choose which one below is the best investment option! Assume market deposit rates are around 9% (Numbers are in million Manats)

Projects	Initial investment	Return on year 1	Return on year 1	Return on year 1	Return on year 1	Return on year 1	Return on year 1
A	10	2	5	7			
B	15	7	7	7			
C	18	5	8	10	6		
D	20	2	3	6	9	9	
E	25	2	3	4	5	6	7
F	30	4	6	8	10	10	8

- a) C
- b) B
- c) D
- d) E
- e) F

41) Company A manufactures bicycles and sells through bicycle stores (through third party). Management of the company decided to eliminate sales through third party and sell directly to customers. It has two options. To purchase a store or rent it. Store value is 20 MLN. Manats if purchased and it is estimated that property prices rise 5% in their value each year. Renting expense for the same size store is 500,000 Manats per month. It is estimated that annual sales of the bicycles will be around 3,000,000 Manats. Bank offers 10 year loan deal for 20 MLN. Manats for 7% annual interest rate (simple annual

compounding). What is financial difference between investment projects and which one is better?

- a) Difference is around 320,000 Manats and purchasing is better
- b) Difference is around 120,000 Manats and purchasing is better
- c) Difference is around 400,000 Manats and renting is better
- d) Difference is around 500,000 Manats and renting is better
- e) There is no difference between investment projects

42) "Company A" plans to open a new gold mine which will cost around 10 BLN. Manats. It is estimated that the gold mine will bring around 1,000 KG's of gold annually. A current price of gold is 900,000 Manats/KG and it is estimated that gold prices will rise 4% annually. Bank offer 10 year deal for 10 BLN. Manats for 8% simple annually compounded rate. Should Company A go for it or not?

- a) No
- b) Yes
- c) I do not know
- d) Maybe Santa Clause knows
- e) We should ask Great Master!

43) Sea Port is being planned to be built, and initial construction cost is estimated to be around 90 BLN Manats. It is known that there will be around 300 employees working and all other operating expenses (electricity, water, etc.) added monthly operating cost will be around 1 BLN Manat. It is also known that once in 15 years, capital renovation will be needed approximately for 10 BLN Manats (new equipment, technological update, etc.) to keep this port running properly. Take annual deposit/investment rates at 8% compounded monthly and calculate capitalization cost of this port.

- a) Capitalization cost is around 256 BLN Manats
- b) Capitalization cost is around 240 BLN Manats
- c) Capitalization cost is around 150 BLN Manats
- d) Capitalization cost is around 450 BLN Manats
- e) Capitalization cost is around 550 BLN Manats

44) Cement factory's capitalization cost is estimated to be around 100 BLN Manats. Find initial construction cost if monthly operating cost is 300 MLN Manats, and cost of renovation is estimated to be around 10 BLN Manats done once in 10 years with annual deposit/investment rate is taken as 10% compounded annually.

- a) 46 BLN. Manats
- b) 56 BLN. Manats
- c) 66 BLN. Manats
- d) 76 BLN. Manats
- e) 86 BLN. Manats

- 45) Zoo is being planned to be built, and initial construction cost is estimated to be around 100 BLN Manats. Estimated monthly operating cost is 2 BLN Manats and renovation cost of the zoo which is planned to be done once in 10 years is estimated to be around 10 BLN Manats. If annual deposit/investment rate is considered to be constant around 9% compounded daily, find minimum monthly revenue to break-even
- Approximately 2.85 BLN. Manats
 - Approximately 3.85 BLN. Manats
 - Approximately 4.85 BLN. Manats
 - Approximately 5.85 BLN. Manats
 - Approximately 6.85 BLN. Manats
- 46) Ayna is a student and she has a monthly budget of 3,000 Manats of which she spends it for restaurant visits (r), cloth items (c) and pleasure (p , cinema, nightclubs, etc.). If Ayna's utility function is assumed to be $U=r*c*p^2$, and average price per restaurant is 200 manat, cloth is 100 Manat (per item of cloth) and pleasure (ticket for cinema, circus ticket, nightclub drink, etc.) is around 50 Manats, find optimum consumption bundle for Ayna so that she will have highest utility number.
- $R=4$, $c=7$ and $p=30$
 - $R=3$, $c=8$ and $p=30$
 - $R=9$, $c=15$ and $p=30$
 - $R=14$, $c=17$ and $p=3$
 - $R=20$, $c=20$ and $p=30$
- 47) Combination of chemical A, chemical B and chemical C is needed to produce a fertilizer and pricing strategy used per kilo of the fertilizer depends on content of each type of chemicals in fertilizer, thus $\text{Price}=A*B*C$. If price of 1 kg of chemicals $A=1,000$ Manats, $B=2,000$ Manats and $C=800$ Manats, calculate optimum amount of chemicals per 1 kg of fertilizer where maximum profit is earned.
- 182 grams= B , 363 grams= A and 455 grams= C
 - 363 grams= B , 182 grams= A and 455 grams= C
 - 620 grams= B , 180 grams= A and 200 grams= C
 - 355 grams= B , 285 grams= A and 455 grams= C
 - 50 grams= B , 50 grams= A and 900 grams= C
- 48) Dragon Airline Company works on (flies) two routes, and each route is serviced by 10 planes. There are three types of planes: Type A, Type B and Type C. Below is shown operating costs (per month) of each type of plane according to routes (in million Manats). Dragon Ariline Company has 5 Type A, 10 Type B and 10 Type C airplanes in garage. Which type of plane and how many of them must be used in each route?

Planes	X route	Y route
Type A	2	2.5
Type B	3	2

Type C	4	4.5
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- a) X route=5 Type A and 5 Type C, Y route=10 Type B
b) X route=5 Type C and 5 Type B, Y route=5 Type B and 5 Type A
c) X route=10 Type C, Y route=5 Type B and 5 Type A
d) X route=10 Type B, Y route=5 Type C and 5 Type A
e) X route=5 Type A and 5 Type B, Y route=5 Type B and 5 Type C
- 49) Labor cost per hour is 25 Manats while machinery cost per hour is 200 Manats. If efficient production function is considered to be $Q = L^{0.8} * M^{0.2}$, (L=labor hours and M=machinery hours) how much of goods can be produced when cost function is limited with 5 MLN. Manats?
- a) Just above 80,000
b) Just below 70,000
c) Exactly 45,678
d) Guaranteed 67,000
e) Estimated 100,000
- 50) An Investor A has 300 shares of Company Z and last year made revenue of 5 BLN Manats of which 8% is paid off as dividends to its shareholders who hold 1,000,000 shares. How much Investor A earned from Company Z's revenue?
- a) 120,000 Manats
b) 200,000 Manats
c) 300,000 Manats
d) 100,000 Manats
e) 50,000 Manats
- 51) Current market cap of the company is 10 BLN Manats, and company grows on average by 13% annually. The company has 2 MLN. shares and on average, the company increases its shares by 8% annually. Estimate share prices of the company 12 years from now.
- a) 7,861 Manats
b) 8,861 Manats
c) 9,861 Manats
d) 10,861 Manats
e) 11,861 Manats
- 52) Below is given simplified statement of income for Dragon Metals Factory (in million Manats). Calculate return on investment (ROI).

Income		Assets	
Sales	430	Net working capital	90
Cost of goods	110	Property	1,300
Administrative cost	80	Depreciation	200

Taxes (profit 30%)	72	Other assets	180
Net Income	168	Total assets	1,370

- a) 0.122
- b) 0.168
- c) 0.137
- d) 3
- e) 5

53) Use information in question 52; what if company borrowed capital for annual 10% for purchasing property, what would have been pure profit or economic profit of the company?

- a) 38 MLN. Manats
- b) 28 MLN. Manats
- c) 48 MLN. Manats
- d) 58 MLN. Manats
- e) 68 MLN. Manats

54) Below is given a market price of Boeing 767 and cash flow this plane brought to company for next 15 years (allowed exploitation duration). After 15 years, planes are sold for 30% of initial price. Calculate depreciation rate of this Boeing 767. (Market price and cash flow in millions of Manats)

Market price of plane	Cash flow
400	
...	38
...	37
	35
	33
	30
	26
	25
	24
	23
	23
	20
	18
	17
	15
...	10
Salvage price 120	

- a) 7.25%
- b) 6.25%

- c) 5.25%
- d) 4.25%
- e) 3.25%

55) Use information in question 54; calculate and tell if purchasing this Boeing 767 was good investment or bad investment if cost of capital was 10%.

- a) No
- b) Yes
- c) Nobody knows!
- d) Santa Clause knows!
- e) Mithun Knows!

56) "During expansion period of an economy, even the worst CEO's get paid 'fat checks'". True or false?

- a) True
- b) False

Talybyň biri bir gün:

- Mugallym men sizi durmuş toýuma çagyryan..

Yhlas mugallym:

- Gutly bolsun, bagtly boluň. Ýöne men talybyň toýuna baramok köşek.

- Mugallym, ýöne men sizi çyndanam sylaýan we gowy görýän-ä...

Yhlas mugallymyň jogaby:

- Muny men, siz okuw gutaraňyzdan soň bilip bilerin diňe!

57) Use information in question 56; why?

- a) CEO's payments, partially, are arranged in stock options. During expansion period economic growth is high and investment attitude is strong which drives stock prices high (Stock Indexes rise!). So, even if company performance is worse than competitors, CEO's get paid well due to general growth atmosphere.
- b) In economic expansion period all companies do great! That is why even under-performing CEO's get paid well.
- c) CEO's always get paid well no matter what!

58) Which one below is not right about agricultural derivatives (derivatives backed by agricultural commodity)?

- a) Hurricane in Brazil will decrease prices of derivatives whose backed commodity is coffee.
 - b) Weather conditions affect derivative prices!
 - c) Derivative prices are sensitive to seasons!
 - d) Agricultural derivatives are volatile!
 - e) Livestock prices depend on prices of agricultural derivatives.
- 59) Which one below is not true about metal derivatives (derivatives backed by metal commodity)?
- a) Weather conditions affect derivative prices!
 - b) Derivative prices are sensitive to exchange rate fluctuations of country where metals are extracted!
 - c) Extraction method, geopolitics, cartels and environmental regulations affect prices of derivatives.
 - d) Increasing prices of metals will encourage companies to find alternatives to metals such as plastics.
- 60) Which energy derivative (derivatives backed by commodity used for producing energy) is non-existent?
- a) Wind derivative
 - b) Oil derivative
 - c) Gas derivative
 - d) Electricity derivative
- 61) Which derivative from listed below follow 'mean-reverting processes'?
- a) Commodity backed
 - b) Stock options backed
 - c) Bond backed
 - d) Currency backed
- 62) A trader buys three August futures contracts on beef meat. Each contract is for the delivery of 50,000 KG of beef meat. The current futures price is 40 Manats/kg, the initial margin is 400,000 Manats per contract, and the maintenance margin is 200,000 Manats per contract. What price change would lead to a margin call?
- a) Above 4 Manats/kg
 - b) Below 2 Manats/kg
 - c) Above 5 Manats/kg
 - d) Above 6 Manats/kg
 - e) Exactly at 8 Manats/kg
- 63) Trader A enters into futures contracts to buy 3 million Manats for 3.9 million Dollars in three months. Trader B enters in a forward contract to do the same thing. The exchange

rate (Dollars per Manats) declines sharply during the first two months and then increases for the third month to close at 1.3300. Ignoring daily settlement, what is the total profit of each trader?

- a) 90,000 USD
- b) 90,000 Manats
- c) 60,000 USD
- d) 130,000 USD
- e) 130,000 Manas

64) A zero coupon bond which has maturity date of 2 month with face value of 1,000,000 Manats is valued at 988,900 Manats currently. What is the yield of the bond in continuous terms?

- a) 6.7%
- b) 7.7%
- c) 8.7%
- d) 9.7%
- e) 5.4%

65) A trader buys call option with strike price 500 Manats and premium paid is 20 Manats. What must be the option price so that trader makes 20% profit?

- a) 624 Manats
- b) 520 Manats
- c) 480 Manats
- d) 600 Manats
- e) 700 Manats

66) A trader sells put option for strike price 200 Manats and premium received is 20 Manats. What must be the option price so that trader makes 20 Manats per option loss?

- a) 160 Manats
- b) 180 Manats
- c) 200 Manats
- d) 220 Manats
- e) 150 Manats

67) A farmer wants to insure herself against falling prices for agricultural goods.

- a) Farmer must purchase put option
- b) Farmer must sell put option
- c) Farmer must purchase call option
- d) Farmer must sell call option
- e) Farmer must simply quit farming

- 68) A company is receiving Japanese machinery in 4 month and according to contract must pay for machinery in Japanese Yens. Company wants to hedge against the risk of strengthening Japanese Yen. Which action below is not correct way of hedging the risk?
- Purchase Swiss Franc because it always gets stronger against all currencies!
 - Purchase a call option for purchasing Yen.
 - Buy Yen (currency) futures.
 - Fix exchange rate in contract!
 - Purchase Yen today!
- 69) An investor has one February futures put option contract on wheat with a strike price of 2,000 Manats per ton. One futures contract is for 1,000 tons of wheat. Suppose that current futures price of wheat for delivery in February is 1,920 Manats and the most recent settlement price is 1,918 Manats per ton. If investor exercises option today, and wants to cash out, how much she will earn?
- 80,000 Manats
 - 78,000 Manats
 - 88,000 Manats
 - 98,000 Manats
 - 108,000 Manats
- 70) An investor has one December futures call option contract on iron with a strike price of 5,000 Manats per ton. One futures contract is for 1,000 tons of iron. Suppose that current futures price of iron for delivery on December is 5,080 Manats and the most recent settlement price is 5,077 Manats per ton. If investor exercises option today, and wants to cash out, how much she will earn?
- 80,000 Manats
 - 83,000 Manats
 - 89,000 Manats
 - 93,000 Manats
 - 78,000 Manats
- 71) A start-up company wants to sell stock options to employees as a compensation scheme. Current value of stocks are 100 Manats and company estimates that price of the stock may either go down or up by 10% annually. A risk-neutral investor is planning to purchase 10,000 stocks of the company for current price and she wants to short on call options to lower the risk of the portfolio. If risk free rate is 9% compounded continuously, what must be fair option price today to achieve investor's goal?
- 8.9 Manats
 - 9.6 Manats
 - 8.6 manats
 - 7.6 Manats
 - 6.6 Manats

72) A stock price is currently 900 Manats. It is known that at the end of 9 months it will be either 20% up or down from the current price. The risk-free interest rate is 10% per annum with continuous compounding. What is the value of a 9-month European put option with a strike price of 900 Manats?

- a) 51 Manats
- b) 126 Manats
- c) 96 Manats
- d) 136 Manats
- e) 146 Manats

73) Below is given companies and their borrowing rates.

Companies	Ruble	Manats
A	5%	9%
B	8%	5%

Company A wants to borrow Manats cheaper and Company B needs Ruble cheaper. Design a fair currency swap and do not forget that bank has 0.5% commission.

- a) Company B must borrow Manats bank and give it to Company A for 7% interest and also borrow Ruble from Company A (which it borrowed from bank for 5%) for 6.5%. Each company will save 3% after commission paid to bank.
- b) Company B must borrow Manats bank and give it to Company A for 8% interest and also borrow Ruble from Company A (which it borrowed from bank for 5%) for 6%. Each company will save 4% after commission paid to bank.
- c) Company B must borrow Manats bank and give it to Company A for 5% interest and also borrow Ruble from Company A (which it borrowed from bank for 5%) for 7%. Each company will save 2% after commission paid to bank.
- d) Company B must borrow Manats bank and give it to Company A for 8% interest and also borrow Ruble from Company A (which it borrowed from bank for 5%) for 8%. Each company will save 4% after commission paid to bank.

Owadan iki örülen saçly, gaşlary ýaý kimin owadan çyzylan, kirpikleri gür we seredilen, dişleri agardylan, ýüzi birje dügürtiksiz arassa, egnindäki köýnegi uzyn boýuny we owadan şeklini has hem gelşikli we çekiji görkezzer ýaly darrak dikilen, dyrnaklary uzyn we renklenen talyba seredip, Yhlas mugallym şeýle diýdi:

- Käşgä diňe ‘daşyna’ däl-de, eýsem ‘içine-de’ şeýle üns berilsedi.

74) Below is given companies and their borrowing rates.

Companies	Fixed rate	Floating rate
A	5%	LIBOR
B	8%	LIBOR + 2%

Company A requires floating rate while Company B needs fixed rate. Design a fair swap and do not forget about 0.25% bank commission from each party.

- a) Company B borrows from floating rate of LIBOR+2% transfers this loan to Company A for LIBOR rate only. Company A borrows from fixed rate of 5% and transfers currency to Company A for 5.5%. Both companies get what they want and each save 0.25% after commission is paid to bank.
- b) Company B borrows from floating rate of LIBOR+2% transfers this loan to Company A for LIBOR-1% rate only. Company A borrows from fixed rate of 5% and transfers currency to Company A for 6.5%. Both companies get what they want and each save 0.5% after commission is paid to bank.
- c) Company B borrows from floating rate of LIBOR+2% transfers this loan to Company A for LIBOR+2% rate only. Company A borrows from fixed rate of 5% and transfers currency to Company A for 5%. Both companies get what they want and each save 1% after commission is paid to bank.
- d) Company B borrows from floating rate of LIBOR transfers this loan to Company A for LIBOR – 2% rate only. Company A borrows from fixed rate of 5% and transfers currency to Company A for 7.5%. Both companies get what they want and each save 0.5% after commission is paid to bank.

75) On January 1, 2023 a company's stock price is 1,000 Manats. An executive exercises 100,000 stock options with a strike price of 900 Manats. What is the impact of this on accounting?

- a) 10 MLN. on expenses
- b) 5 MLN. on expenses
- c) 2 MLN. on expenses
- d) 1 MLN. on expenses

76) Equipment worth 1 MLN. Manats has useful life of 1,000,000 hours after which it will still be priced at 200,000 (scrap value). Find depreciation.

- a) 0.8 Manats/hour
- b) 1 Manats/hour
- c) 0.9 Manats/hour
- d) 1.1 Manats/hour
- e) 1.2 Manats/hour

- 77) Cost of machinery is 2 MLN. Manats and scrap value after 15 years is 300,000 Manats. If machinery depreciation rate is 25% annually, find the total depreciated amount (accumulated depreciation) at the end of 8th year.
- a) 1,529,808 Manats
 - b) 3,589,424 Manats
 - c) 2,589,424 Manats
 - d) 5,589,424 Manats
 - e) 1,589,424 Manats
- 78) What is the depreciation rate of an equipment which worth 20 MLN. Manats today and has scrap value of 5 MLN. Manats 12 years later?
- a) 13%
 - b) 15%
 - c) 17%
 - d) 19%
 - e) 21%
- 79) What is the main function of financial institutions?
- a) To turn savings into investment!
 - b) To make profit!
 - c) Multiply the money!
 - d) Provide liquidity to market!
- 80) Is this a coincidence that top performing sports clubs are generally the ones that are financed well?
- a) No, it is not a coincidence. Performance depends on finances heavily!
 - b) Yes, it is a coincidence. Top teams perform well because they train differently!
 - c) Yes, it is a coincidence. Money has nothing to do with this!
 - d) Yes, it is a coincidence. Top teams have special tactics and strategies, not a 'fat wallets'!
- 81) Which one below is not correct about inflation?
- a) Inflation does not hurt an economy due to neutrality of money!
 - b) Inflation means higher prices tomorrow; the money has more purchasing power today than tomorrow. Logically, it is better to spend money today, rather than saving it for tomorrow.
 - c) It is better to save in currency which has stronger purchasing power than the one which loses it quickly.
 - d) Even in high inflation environment people will still save but in another currency. Not the one which loses value quickly.
 - e) Stable prices mean stable economy!

- 82) Top rated universities are the richest ones, is this coincidence?
- a) No, it is not a coincidence. Finances have huge impact on quality of education!
 - b) Yes, it is absolute coincidence. Top universities study from secret books!
 - c) Yes, it is coincidence. Top universities just try harder than others!
 - d) Yes, it is coincidence. Money has nothing to do with education level.
- 83) “Good finances create good universities. Better financed universities give higher quality education. High quality education creates high human capital. High human capital is needed to produce advanced goods and services which have higher prices and lesser competition in market.” True or false?
- a) True
 - b) False
 - c) I do not know, I should ask my mom.
- 84) Is this a coincidence that top movies are generally the ones which were financed well (high budget)?
- a) No, it is not a coincidence. Better financing brings better results!
 - b) Yes, it is coincidence. Movie quality depends on quality of directors only!
 - c) Yes, it is coincidence. Movie quality depends on quality of actors only!
 - d) Yes, it is coincidence. Movie quality depends on quality of screen-writers only!
- 85) Number of mutual funds, venture capital firms, investment funds, trusts, and other financial entities are proof of what?
- a) Proof of high investment activity.
 - b) Proof of wealth.
 - c) Proof of financial stability.
 - d) Proof of economic development.
- 86) Which one below is not correct regarding crypto-currencies?
- a) Stability!
 - b) Decentralized supply.
 - c) Fixed supply.
 - d) Impossible to counterfeit thanks to block-chain technology.
- 87) Which one below is not the main reason why offshore financial services are used?
- a) Offshore regions have big markets
 - b) Low taxes help to save money.
 - c) Easy to hide “dirty money”.
 - d) Higher anonymity.

88) “Some countries argue (or complain) that international organizations (UN, IMF, etc.) are not trustworthy because their decisions are highly biased against certain nations.” Agree or not?

- a) Agree! Decisions and actions of any organization will depend on its financial structure, thus, by whom the organization is financed! If you are paying for meal, you deserve to order!
- b) Disagree! International organizations are always fair and square!
- c) Disagree! International organizations are holy entities, any disagreement is baseless!
- d) Disagree! They know better, so take it or leave it!

89) How investors react to financial instability (financial crisis, economic crisis, etc.)?

- a) Purchasing of gold increases!
- b) Purchasing of foreign currency increases!
- c) Purchasing of tangible assets increases!
- d) Investors switch jobs!
- e) They immediately file for bankruptcy!

90) What is the future of currencies?

- a) Strongest ones will survive!
- b) There will be no currency in the future!
- c) They will be digital!
- d) Nothing will change!

Yhlas mugallyma kärdeşlerinden biri sorady:

- Siz şeýle bir yhlasly we irginsiz sapak berýäňiz. Sapagyň dowamynda birje-de oturaňyzok. Nädip beýle edip bilýäňiz?

Yhlas mugallymyň jogaby:

Talyplaryň arasynda öz çagalarymyň hem oturanyny göz önüne getirýärim!

PART8: Econometrics

- 1) Below is given data for Gross Domestic Product (GDP), Consumption spending (C), Investment spending (I), Government spending (G), Exports (Ex) and Imports (Im) for 27 years in billions of Manats. Use OLS (Ordinary Least Squares) estimation and find best, least and unbiased estimators of independent variables.

	GDP	C	I	G	Ex	Im
1991	21,000	16,485	1,558	1,988	4,550	3,200
1992	24,000	17,320	1,700	2,300	6,050	3,420
1993	26,000	18,000	1,950	2,780	6,900	3,600
1994	28,000	19,320	2,000	3,000	7,700	3,840
1995	32,000	21,045	2,150	3,500	9,045	4,010
1996	36,700	23,458	2,300	3,900	11,000	4,200
1997	41,000	25,000	2,400	4,000	13,503	4,325
1998	47,000	27,841	2,500	4,235	17,000	4,700
1999	50,000	29,654	2,680	4,600	18,000	5,000
2000	52,000	30,660	2,700	4,800	19,000	5,000
2001	57,000	33,477	2,900	5,100	20,458	4,980
2002	60,000	35,658	3,052	5,320	20,877	4,900
2003	62,000	36,544	3,240	5,800	21,000	4,750
2004	64,000	37,410	3,440	6,014	22,000	4,700
2005	67,000	38,450	3,700	6,490	23,000	4,500
2006	70,000	40,000	3,000	6,800	23,680	4,330
2007	65,000	37,000	2,900	6,300	23,000	4,000
2008	60,000	36,054	2,870	6,700	18,321	3,945
2009	63,000	39,000	2,800	7,000	18,000	3,900
2010	64,020	41,000	2,600	7,200	17,000	3,780
2011	69,000	43,250	3,000	7,500	18,050	3,400
2012	72,000	44,800	3,200	7,700	19,000	3,200
2013	80,000	48,000	5,400	7,950	21,058	3,210
2014	83,000	49,800	5,500	8,084	22,587	3,150
2015	85,000	50,000	6,000	8,325	23,899	3,000
2016	88,028	51,023	6,400	8,455	25,000	2,850
2017	91,000	52,000	7,000	8,800	26,000	2,800

- a) $GDP = -849.7 + 1.02C + 0.94I + 1.08G + 0.95Ex - 0.84Im$
b) $GDP = -649.7 + 1.02C + 0.94I + 1.08G + 0.95Ex - 0.84Im$
c) $GDP = -849.7 + C + 0.9I + G + 0.9Ex - 0.8Im$
d) $GDP = -849.7 + 1.12C + 0.97I + G + Ex - 0.84Im$
e) $GDP = -949.7 + 2C + 4I + G + 0.95Ex - 0.4Im$
- 2) Use information given in question 1; does the model fit the data well, how do you know?
- a) Yes, R-squared is almost 1!
b) Yes, T-tests are all above 5!
c) No, R-squared is almost 1!

- d) No, I have a bad feeling about it!
- 3) Use information given in question 1; a researcher now drops Imports from regression and gets new estimators. How would a researcher understand which model (with Imports or without Imports) is best to use for estimation?
- Model with Imports is better because F-test (joint significance test) results are larger than the Model without Imports.
 - Model with Imports is better because T-test results of independent variables are smaller than Model without Imports.
 - Model without Imports is better because fixed coefficient is larger than the Model with Imports.
 - Model without Imports is better because including more variables into the model loses prediction efficiency of the model.
- 4) Use information given in question 1; a researcher wants to test if error terms are normally distributed, what must she do?
- Find residuals of the model. Calculate Skewness, Kurtosis and Jarque-Bera test results.
 - Find estimators. Then find variances of each variable. Lastly, find standard errors.
 - Find R-squared. Then find Adjusted R-squared.
 - Find T-test results. Then find probabilities.
- 5) Use information given in question 1; calculate if residuals are normally distributed or not.
- Skewness=0.9577, Kurtosis=1.018 and Jarque-Bera test=8.545
 - Skewness=1.9577, Kurtosis=0.018 and Jarque-Bera test=4.545
 - Skewness=2.96, Kurtosis=18 and Jarque-Bera test=18.5
 - Skewness=6.7, Kurtosis= - 1.8 and Jarque-Bera test=5.45
 - Skewness=4.9, Kurtosis=8 and Jarque-Bera test=22.3
- 6) Use information given in question 1 and 5; ideal Skewness, Kurtosis and Jarque-Bera test results must be 0, 3 and 0 respectively. Researcher did not get ideal results (question 5 results); can she still use this econometric model?
- Yes, because estimators are BLUE (best, least and unbiased)!
 - Yes, because R-squared is high!
 - Yes, because F-test is high!
 - No, because residuals are not normally distributed!
 - No, because T-test of coefficient is failing!
- 7) Use information given in question 1; find out if researcher can use 0.92 instead of 0.95 as an estimator of Exports?

- a) Yes she can because we fail to reject the null hypothesis that estimator is 0.92 when using t-test of significance.
 - b) No she cannot because we fail to reject the null hypothesis that estimator is 0.92 when using t-test of significance.
 - c) Yes, because F-test of joint significance is very high.
 - d) No, because once efficient estimators are found, no need to use anything else.
 - e) I do not know, I should ask my mom about it.
- 8) Use information given in question 1; in which year (from last 27 years) estimation of the model was almost perfect?
- a) In 1993, because residual was the smallest in that year!
 - b) In 2004, because residual was smallest that year!
 - c) In 2009, because residual was biggest that year!
 - d) In 2010, because GDP was median of the total GDP

Örän ýalta we ylymsyz talyplaryň biriniň aldygyna sport bilen
meşgullanyp duranyny görüp, Yhlas mugallym şeýle diýdi:
Samsyklar uzak ýaşamagyň aladasynda bolarlar, akyllylar bolsa haýyrly
ýaşamagyň!

- 9) Use information given in question 1; assume researcher was given the best estimates of indicators for the year 2018. It is estimated that total consumption spending will rise by 5%, investment spending by 4.4%, government spending will be cut by 7%, export is expected to grow by 8% and finally import expenses are expected to decline by 6%. What will be researcher's GDP prediction for the year 2018 according to her econometric model?
- a) 95,865 BLN. Manats
 - b) 93,000 BLN. Manats
 - c) 94,400 BLN. Manats
 - d) 93,900 BLN. Manats
 - e) 105,890 BLN. Manats
- 10) Use information given in question 1; now researcher wants to find out regression results without constant coefficient. Which one below is her model?
- a) $GDP = 1.01C + 0.89I + 1.067G + 0.986Ex - 1.025Im$
 - b) $GDP = C + 0.8I + G + 0.9Ex - Im$
 - c) $GDP = 1.4C + 0.9I + 1.2G + 0.986Ex - 1.3Im$
 - d) $GDP = 1.3C + 1.2I + 1.4G + 0.9Ex - Im$
 - e) $GDP = C + 0.8I + 1.5G - 0.7Ex - 1.025Im$

- 11) Economist was hired for manufacturing company. First thing the economist did was to look up for cost analysis. Below is given output and cost associated with that output amount. Estimate cost function using given numbers.

Output	Cost
10	99,970,100
25	99,925,625
60	99,823,600
150	99,572,500
500	98,750,000
900	98,110,000
1,000	98,000,000
1,260	97,807,600
1,500	97,750,000
1,890	97,902,100
2,500	98,750,000
3,000	100,000,000
5,000	110,000,000
10,000	170,000,000
20,000	440,000,000
50,000	2,450,000,000
100,000	9,800,000,000
200,000	39,500,000,000
500,000	248,600,000,000
1,000,000	997,100,000,000

- a) $TC = Q^2 - 3,000Q + 100,000,000$
- b) $TC = 5Q^2 - 5,000Q + 10,000,000$
- c) $TC = 10Q^2 - 300Q + 1,000,000$
- d) $TC = 30,000Q + 100,000,000$
- e) $TC = 50Q^2 - 100,000,000$

- 12) Below is given output and cost associated with it. What kind of production function is this?

Output	Cost
20	50,000,000
50	20,000,000
80	12,500,000
100	10,000,000
200	5,000,000
500	2,000,000
750	1,333,333
900	1,111,111
1,000	1,000,000
1,200	833,333
1,800	555,556

2,200	454,545
3,000	333,333
5,000	200,000
6,800	147,059
8,000	125,000
10,000	100,000
20,000	50,000
50,000	20,000

- a) Increasing returns to scale
- b) Decreasing returns to scale
- c) Neutral returns to scale
- d) Progressive returns to scale

13) Use information given in question 12; find total cost function.

- a) $TC = \frac{1,000,000,000}{Q}$
- b) $TC = 400Q + 1,000,000$
- c) $TC = 1,000,000,000 - Q$
- d) $TC = Q^2 - 2,000Q$

14) Below is given inputs and output of a production company. Please find production function.

Output (Q)	Machine hours (K)	Labor hours (L)
1,261,914.69	1,000,000.00	100,000.00
1,208,416.60	1,100,000.00	55,000.00
1,016,594.62	850,000.00	65,000.00
1,206,296.58	950,000.00	98,000.00
2,407,605.96	2,000,000.00	158,000.00
1,983,560.12	1,480,000.00	200,000.00
1,951,933.88	1,960,000.00	60,000.00
2,388,643.02	3,000,000.00	30,000.00
1,783,324.79	2,740,000.00	10,000.00
1,113,742.86	650,000.00	300,000.00
578,515.50	300,000.00	250,000.00
275,945.93	100,000.00	500,000.00
905,126.45	750,000.00	60,000.00
447,023.84	325,000.00	50,000.00
171,744.91	147,000.00	10,000.00

- a) $Q = 2K^{0.8}L^{0.2}$
- b) $Q = 2K^{0.2}L^{0.8}$
- c) $Q = 20K^{0.5}L^{0.5}$
- d) $Q = K^{0.3}L^{0.9}$
- e) $Q = 25KL$

15) Economists know that OLS (Ordinary Least Squares) method only be used if intrinsically estimation function is linear in parameters. Which one below is not an approach in estimating non-linear models?

- a) Trial and error method
- b) Direct optimization method
- c) Iterative linearization method
- d) Gauss-Markov method

16) Researcher wants to find out what are the most important factors that make top rugby players valuable. She sent simple questionnaires (survey) to top 200 rugby players currently playing for various leagues. Survey contained only 8 questions and questions are given below:

- A. What is your total earning for the last year?
- B. What is your weight (in pounds)?
- C. What is your height (in centimeters)?
- D. What is your ethnicity (European, Asian, African, Latino, or Mixed)?
- E. How long have you been playing in top leagues (in years)?
- F. What is you maximum speed in 100 meter sprint (in seconds)
- G. What is your maximum weight you can bench press 5 times? (in pounds)
- H. What is your maximum weight you can squat 5 times? (in pounds)

Researcher wants to use OLS method for finding estimators and how many dummy variables she must have in regression?

- a) 4
- b) 5
- c) 6
- d) 3
- e) None!

17) Use information given in question 16; what is a dependent variable?

- a) Total earning for last year
- b) Sprint results
- c) Squat results
- d) Ethnicity
- e) Years of playing rugby in top leagues (experience)

18) Researcher made a research on a child mortality and below is given its model;

$$CM = 53.1 - 0.004I - 7.5EDUC + 8.1AFRN - 9ASIAN$$

CM=probability of child mortality in %, I=monthly income in Manats, EDUC=dummy for education level of mother; 1 if mom has second degree education and higher and 0 if only middle school, AFRN and ASIAN- dummies for ethnicity of mother, AFRN-African, ASIAN-Asian. Find probability of child mortality of highly educated white pregnant woman whose monthly income is 10,000 Manats.

- a) 5.6%
- b) 40%
- c) 56%
- d) 3%
- e) None!

- 19) Researcher wanted to determine the demand curve for tomatoes using data for sales of tomatoes last month. There are recently three types of tomatoes in market: Q1=low quality, Q2=medium quality and Q3=high quality. Below are given quantities sold and prices for each quality of tomatoes.

Q1	P1	Q2	P2	Q3	P3
20000	2	12500	4	3000	10
19800	2.1	12460	4	3000	10
19000	2.2	12440	4	3050	9.8
19900	2	11700	4.2	3060	9.7
18700	2.4	11450	4.5	3100	9.8
18950	2.3	11480	4.4	3105	9.7
19650	2	12480	4.1	3140	9.6
20050	2	13340	3.9	3110	9.5
20040	2	13356	3.9	3111	9.5
18400	2.3	13384	3.9	3128	9.5
21540	1.9	13850	3.8	3254	9.5
22650	1.8	13847	3.8	3235	9.4
22800	1.8	13950	3.7	3286	9.4
23000	1.7	13960	3.7	3310	9.3
25000	1.6	14000	3.65	3325	9.3
26000	1.6	14000	3.64	3365	9.3
26400	1.6	14700	3.5	3400	9.25
26000	1.6	14730	3.5	3405	9.25
27000	1.5	14720	3.5	3406	9.23
28000	1.5	14900	3.4	3408	9.21
29000	1.5	14900	3.4	3480	9.2
29800	1.4	15000	3.3	3490	9.18
31200	1.2	15200	3.2	3495	9.14
32000	1.2	15302	3.1	3540	9.1
33000	1.2	15750	3	3560	9.1
33240	1	15784	3	3500	9
33500	1	15802	3	3575	9
33650	1	15860	3	3590	9
33660	1	15832	3	3600	9

33700	1	15800	3	3700	9
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Below are given three models researcher found. Which model should she use? (D1 is dummy for high quality tomatoes. D2 is dummy for medium quality tomatoes).

SUMMARY OUTPUT									
Regression Statistics									
Multiple R	0.976015								
R Square	0.952605								
Adjusted R Sq	0.951516								
Standard Error	2133.087								
Observations	90								
ANOVA									
	df	SS	MS	F	Significance F				
Regression	2	7956450809	3978225404	874.3239	2.4788E-58				
Residual	87	395855125.5	4550058.913						
Total	89	8352305934							
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%	
Intercept	35444.96	718.7333408	49.31587579	2.26E-65	34016.4038	36873.5245	34016.4	36873.5245	
P	-5959.69	252.924632	-23.563088	1.57E-39	-6462.40047	-5456.9703	-6462.4	-5456.9703	
D1	23693.74	1770.304267	13.38399452	7.8E-23	20175.0712	27212.414	20175.07	27212.414	

SUMMARY OUTPUT									
Regression Statistics									
Multiple R	0.976247317								
R Square	0.953058824								
Adjusted R Sq	0.951421341								
Standard Error	2135.162598								
Observations	90								
ANOVA									
	df	SS	MS	F	Significance F				
Regression	3	7960238872	2.653E+09	582.0267	5.48998E-57				
Residual	86	392067061.7	4558919.3						
Total	89	8352305934							
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%	
Intercept	36111.99464	1026.184478	35.190549	7.67E-53	34072.00741	38151.98	34072.01	38151.98	
P	-6431.77812	576.4724229	-11.157131	2.13E-18	-7577.76737	-5285.79	-7577.77	-5285.79	
D1	27448.01805	4483.620696	6.1218421	2.67E-08	18534.8751	36361.16	18534.88	36361.16	
D2	1144.268595	1255.307981	0.9115441	0.364557	-1351.20108	3639.738	-1351.2	3639.738	

SUMMARY OUTPUT									
Regression Statistics									
Multiple R	0.924673186								
R Square	0.8550205								
Adjusted R Sq	0.853373006								
Standard Error	3709.498153								
Observations	90								
ANOVA									
	df	SS	MS	F	Significance F				
Regression	1	7141392798	7.14E+09	518.9824	1.14592E-38				
Residual	88	1210913136	13760377						
Total	89	8352305934							
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%	
Intercept	27461.44247	697.2790744	39.38372	1.14E-57	26075.74683	28847.14	26075.74683	28847.13811	
P	-2699.725904	118.5068275	-22.7812	1.15E-38	-2935.23332	-2464.22	-2935.233321	-2464.21849	

20) Researcher collected data on income and education level of people. She decided to construct a probability function such that calculating probability of the person's higher education level according to income. Normally, people with high education earn higher income compared to people with no high education. Sample data on income and education level (1 if person has BA or higher, and 0 none) of people is shown below.

Education level	Income
1	6,000
1	7,500
1	6,350
1	8,000
1	9,000
1	10,000
1	7,200
0	3,200
0	2,500
0	1,800
0	1,900
...	...

Below are results of her regressions. Which one must be used?

SUMMARY OUTPUT							
Regression Statistics							
Multiple R	0.83020912						
R Square	0.689247184						
Adjusted R Square	0.682491688						
Standard Error	0.60213011						
Observations	48						
ANOVA							
	df	SS	MS	F	Significance F		
Regression	1	36.9912	36.9912	102.0276206	2.95507E-13		
Residual	46	16.67779	0.362561				
Total	47	53.66899					
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%
Intercept	-0.443091928	0.190188	-2.32976	0.024262426	-0.825919675	-0.06026	-0.82592
Income/sqrdW	0.000118014	1.17E-05	10.10087	2.95507E-13	9.44959E-05	0.000142	9.45E-05

SUMMARY OUTPUT							
Regression Statistics							
Multiple R	0.873540305						
R Square	0.763072664						
Adjusted R	0.759687988						
Standard E	0.246447022						
Observations	72						
ANOVA							
	df	SS	MS	F	Significance F		
Regression	1	13.69291503	13.69291503	225.4492343	1.4E-23		
Residual	70	4.251529418	0.060736135				
Total	71	17.94444444					
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%
Intercept	-0.274691043	0.057602786	-4.76871109	9.77484E-06	-0.38958	-0.159805909	-0.389576176
income	0.000150541	1.00261E-05	15.01496701	1.40034E-23	0.000131	0.000170537	0.000130545

21) Which method below is not used for developing probability model for binary response variable?

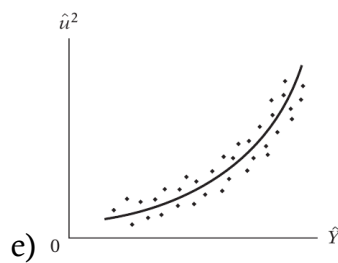
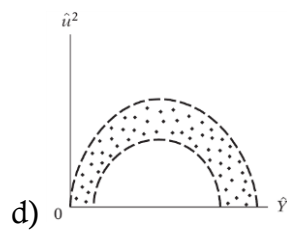
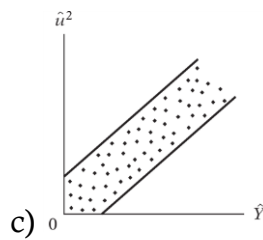
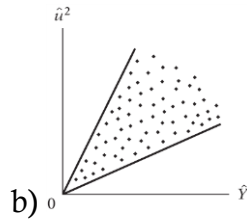
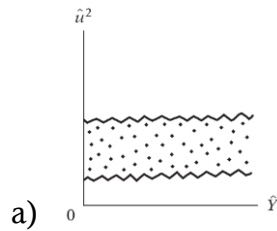
- Non-linear probability model
- Linear probability model
- Logit
- Probit
- Tobit

22) Which one below might not be due to multicollinearity?

- F-test of regression tends to be small.

- b) T-ratio of one or more of the variables tends to be insignificant
- c) OLS estimators have large variances and covariance.
- d) Standard errors of OLS estimators can be sensitive to small changes in data
- e) Even though t-ratio of one or more variables is insignificant, goodness of fit, R^2 may be high.

23) Which one below does not have heteroscedasticity?



- 24) Under both heteroscedasticity and autocorrelation, usual OLS estimators are no longer...
- b) ...best estimators
 - c) ...unbiased estimators
 - d) ...linear
 - e) ...asymptotically normally distributed
- 25) In which times series below serial correlation is not expected?
- a) Education data
 - b) GNP
 - c) Unemployment
 - d) Production
 - e) Price Indexes

Ýaş mugallymlardan biri gelip Yhlas mugallyma sorady:

- Mugallym, ýerinde siz talyplara käýeýäňiz, ähli zady diýýäňiz, talyplar bolsa sesini çykaranok. Biz, siziň diýeniňiziň ýarysyny diýsek gaýtargy berjek bolup durlar. Haýbatly seredýärler, gaty görýärler. Syry nämede?

Yhlas mugallymyň jogaby:

- Diýilen zat däl, diýen agyz möhümlü!

- 26) Which one below is not a reason for serial autocorrelation?
- a) Multicollinearity
 - b) Excluded variable from the model
 - c) Wrong functional form of the model
 - d) Time lags persistent in data
 - e) Non-stationary
- 27) What is the meaning of “**white noise error term**”?
- a) Value of disturbance term in period T equals to fixed amount multiplied to disturbance term in period $T-1$ plus some random error term.
 - b) Value of disturbance term in period T equals to disturbance term in period $T-1$.
 - c) Value of disturbance term in period T equals to some random error term.
- 28) Use information given in question 1; Durbin-Watson test result is...
- a) 1.896
 - b) 1.575
 - c) 1.940
 - d) 1.2

e) 0.87

29) Use information given in question 1 and 28; so we conclude that...

- a) ...there is no evidence of first-order serial correlation
- b) ...there is inconclusive evidence regarding presence or absence of first-order serial correlation
- c) ...there is evidence of first order-serial correlation
- d) ...functional form of the model is incorrect

30) Which one below is not consequence of omitting a relevant variable?

- a) Variance is correctly estimated
- b) Constant term is biased
- c) Estimator of the dependent variable may be biased
- d) Estimated parameters may look like insignificant

31) Which one below is not a consequence of an over-fitting model?

- a) Estimated parameters are efficient
- b) Error variance is correctly estimated
- c) Estimated parameters are unbiased and consistent
- d) Confidence interval and hypothesis testing will be valid

32) Researcher wants to find out short-run and long run effect of increasing money supply. Below is given data. Find out how inflation rate will change in a short-run if money supply increased by 100 BLN. Manats?

Years	MS (in billion Manats)	Inflation rate	Years	MS (in billion Manats)	Inflation rate
1955	1,890.0	6.5	1990	4,580.0	14.67
1956	1,925.0	6.65	1991	4,659.0	14.91
1957	1,984.0	6.7	1992	4,738.1	15.16
1958	2,050.0	6.8	1993	4,817.2	15.40
1959	2,100.0	6.85	1994	4,896.2	15.65
1960	2,140.0	6.88	1995	4,975.3	15.89
1961	2,265.0	7.3	1996	5,054.3	16.14
1962	2,300.0	7.5	1997	5,133.4	16.38
1963	2,400.0	7.9	1998	5,212.5	16.62
1964	2,500.0	8.4	1999	5,291.5	16.87
1965	2,600.0	8.8	2000	5,370.6	17.11
1966	2,700.0	9	2001	5,449.6	17.36
1967	2,880.0	9.3	2002	5,528.7	17.60
1968	2,840.7	9.29	2003	5,607.8	17.85
1969	2,919.7	9.54	2004	5,686.8	18.09
1970	2,998.8	9.78	2005	5,765.9	18.33
1971	3,077.8	10.03	2006	5,845.0	18.58
1972	3,156.9	10.27	2007	5,924.0	18.82
1973	3,236.0	10.52	2008	6,003.1	19.07

1974	3,315.0	10.76	2009	6,082.1	19.31
1975	3,394.1	11.00	2010	6,161.2	19.56
1976	3,473.1	11.25	2011	6,240.3	19.80
1977	3,552.2	11.49	2012	6,319.3	20.04
1978	3,631.3	11.74	2013	6,398.4	20.29
1979	3,710.3	11.98	2014	6,477.4	20.53
1980	3,789.4	12.23	2015	6,556.5	20.78
1981	3,868.4	12.47	2016	6,635.6	21.02
1982	3,947.5	12.71	2017	6,714.6	21.27
1983	4,026.6	12.96	2018	6,793.7	21.51
1984	4,105.6	13.20	2019	6,872.7	21.75
1985	4,184.7	13.45	2020	6,951.8	22.00
1986	4,263.7	13.69	2021	7,030.9	22.24
1987	4,342.8	13.94	2022	7,109.9	22.49
1988	4,421.9	14.18	2023	7,189.0	22.73
1989	4,500.9	14.42	2024	7,268.0	22.98

- a) 0.17%
- b) 1.7%
- c) 0.54%
- d) 0.017%
- e) 1.2%

33) Use information given in question 32; find out how will inflation rate change in a long-run if money supplied increased by 100 BLN. Manats?

- a) 0.3%
- b) 3%
- c) 1.3%
- d) 2.3%
- e) 3.3%

34) Use information given in question 32; how short-run inflation function looks like?

- a) $\text{Inflation rate}_t = 0.37 + 0.0017\text{MS}_t (\text{MoneySupply}) + 0.4489 \text{ Inflation rate}_{t-1}$
- b) $\text{Inflation rate}_t = 0.57 + 0.017\text{MS}_t (\text{MoneySupply}) + 0.4 \text{ Inflation rate}_{t-1}$
- c) $\text{Inflation rate}_t = 0.87 + 0.17\text{MS}_t (\text{MoneySupply}) + 0.89 \text{ Inflation rate}_{t-1}$
- d) $\text{Inflation rate}_t = 3.7 + 0.0017\text{MS}_t (\text{MoneySupply}) + 0.4489 \text{ Inflation rate}_{t-1}$
- e) $\text{Inflation rate}_t = 0.37 + 1.7\text{MS}_t (\text{MoneySupply}) + 0.9 \text{ Inflation rate}_{t-1}$

35) Use information given in question 32; how long-run inflation function looks like?

- a) $\text{Inflation rate}_t = 0.67 + 0.003\text{MS}_t$
- b) $\text{Inflation rate}_t = 0.67 + 0.017\text{MS}_t + 0.4 \text{ Inflation rate}_{t-1}$
- c) $\text{Inflation rate}_t = 0.017\text{MS}_t + 0.4 \text{ Inflation rate}_{t-1}$
- d) $\text{Inflation rate}_t = 1.5 + 0.017\text{MS}_t + 0.4 \text{ Inflation rate}_{t-1}$
- e) $\text{Inflation rate}_t = 0.57 + 0.4 \text{ Inflation rate}_{t-1}$

36) How problem of simultaneous-equation models could be solved?

- a) Adding in more explanatory variables into the models
- b) Removing out some explanatory variables from the model
- c) Increasing sample size
- d) Decreasing sample size

37) What is the other name of “Dickey-Fuller test”?

- a) Tau test
- b) DF test
- c) Augmented DF test
- d) Chow test

Yhlas mugallym talyplara şeýle diýerdi:

- Her bir hünäriň aýratyn edebi, etikasy bardyr. Söwdegär, ykdysadçy bolsaň puly söýmelisiň. Lukman, kazy, aklawjy bolsaň adamlary söýmeli. Serkerde bolsaň ‘ala meýdany’ , söweşi we ýaragy söýmeli. Mugallym bolsaň okuwçylary, talyplary söýmeli. Bular, hünäriň edebidir, muny başarmadyk öz hünärinde ussat bolup bilmez!

38) Researcher wants to use the best model and made 5 different regression models. Below are given their Akaike information criterions, choose the best fitting model.

- a) 1.3
- b) 1.56
- c) 1.9
- d) 1.75
- e) 1.98

39) Before which research shown below it is recommended to use “Granger test of causality”?

- a) Researching the impact of Money supply on GDP
- b) Researching impact of Income of family on Child mortality
- c) Researching impact of Weather on Agricultural output
- d) Researching impact of Subsidization by government on Education

40) Durbin-Watson d test is used for...

- a) ...serial correlation.
- b) ...multicollinearity.

- c) ...detecting endogenous variables.
- d) ...homoscedasticity.
- e) ...normality of sample.

41) " $g = \frac{\sum_2^n \hat{e}_t^2}{\sum_1^n \hat{u}_t^2}$ " Researcher used this formula where $\hat{e}$ is residuals from first-difference regression and $\hat{u}$ is residuals from original regression. What is researcher testing?

- a) Researcher is testing if ρ in equation $u_t = \rho u_{t-1} + \varepsilon_t$ equals to 1 or not.
- b) Researcher is testing if g which is test for autocorrelation is smaller than 1 or not.
- c) This is formula for testing for heteroscedasticity.
- d) This is formula for detecting simultaneous equations.

42) Use information given in question 41; what is the name of that test?

- a) Berenblutt-Webb test
- b) Breusch-Pagan test
- c) Park test
- d) White test

43) Which test is used to avoid pitfalls of Durbin-Watson d test in detecting autocorrelation?

- a) Breusch-Godfrey test
- b) Goldfeld-Quandt test
- c) Koenkar-Basset test
- d) White's test

44) What is the name of this model " $Y_i^\omega = \beta_1 + \beta_2 X_i + u_i$ "?

- a) Box-Cox regression model
- b) Non-linear regression
- c) Linear regression
- d) Power regression

45) Researcher is analyzing of firms investment behavior and used investment and other needed data for last 40 years. Unfortunately, she is afraid that some fundamental economic reforms two decades ago may have had deep impact on behavior of business environment. What she should to clear out this suspicion?

- a) Use Chow test
- b) Use White's test
- c) Use Koenkar-Basset test
- d) Use Box-Cox transformation

46) Researcher attained residuals from regression. Then she multiplied residuals by power of two and on assumption that variance is some function of explanatory variable, took (Ln) of both side of equation. After that, she looked at the t-ratio of explanatory variable (it

was showing statistically insignificant) and concluded that “heteroscedasticity is not present in the data”. What she just did?

- a) Park test
- b) Chow test
- c) F-test
- d) T-test

47) Which one below is the best description of Cobb-Webb phenomenon?

- a) Production of certain goods take longer time (agricultural goods) that is why, today's production depends on yesterday's prices. Tomorrow's production depends on prices today.
- b) Prices of tomorrow will depend on today's production.
- c) Yesterday's production dependent on today's prices.
- d) Price of today will impact price of future.

48) Use information given in question 41; what can else be used to find the value of ρ in equation $u_t = \rho u_{t-1} + \varepsilon_t$?

- a) Cochran-Orcutt iteration method
- b) Hausman test
- c) Goldfeld-Quandt test
- d) Koyck transformation

49) ... is used to find out if explanatory variable is endogenous or not.

- a) Hausman test
- b) Koyck transformation
- c) Wald test
- d) Bert test

50) When heteroscedastic variance is positively related to one of the explanatory variables in the regression, it is better to use...

- a) Goldfeld-Quandt test
- b) Spearman's rank correlation test
- c) Glejser test
- d) Park test

51) Researcher regressed squared residuals on the squared estimated values of the regressand. Which test has she performed?

- a) Koenker-Basset test of heteroscedasticity
- b) Glejser test of white noise
- c) Goldfeld-Quandt test of heteroscedasticity

d) Walli-Wulli test

52) Which test below does not belong to group?

- a) Walli-Wulli test
- b) Lagrangian multiplier test
- c) Likelihood ratio
- d) Wald test

Yhlas mugallym şeýle diýdi:

- Ýüz ýyl 'özüm üçin' ýaşanymdan, elli ýyl 'haýyrly iş üçin'
ýaşanym gowudyr!

Unedited version

2023